This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

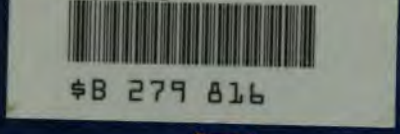
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`


$B 279 816

Thomas Gibson's Special Market Letters 1908

LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA.

Class

Thomas Gibson's Special Market Letters 1908

THE GIBSON PUBLISHING COMPANY
15 WILLIAM STREET
NEW YORK

HG 4123
.G47

GENERAL
N.C.

Copyright 1909, by
THE GIBSON PUBLISHING CO.
All rights reserved.

CONTENTS

	Page
The Coal Land Law	9
Copper	14
Spreads and Straddles	18
Copper	26
Probable Effect of Tariff Revision on Securities By Byron W. Holt.	31
Increasing Gold Supply and Stock Prices By Maurice L. Muhleman.	39
A Talk About Cotton By Katherine M. Giles.	45
The Importance of Fixed Charges By Carl Snyder.	50
The Balance of Trade By Charles A. Conant.	55
Review of the World's Gold Supply By Arthur Selwyn-Brown.	62
The Outlook for the Next Six Months By J. Pease Norton.	73
Railroad Earnings and the New Accounting By George Bevan Mott.	78

194604

Page

Gold Depreciation and Security Values 83
By Byron W. Holt.

Call Money Rates and Stock Prices 91
By John P. Ryan.

Convertible Bonds 97
By Robert W. Speir.

Europe's Interest in American Securities 103
By Charles F. Speare.

The Function of Speculation 108
By Frank Fayant.

Mines on the New York Curb 117
By George E. Vigouroux.

Speculation 125
By Howard Schenck Mott.

The History of Prices 133
By Arthur Selwyn-Brown.

Copper 143
By Frank Fayant.

Our Grain Supply 150

The Proposed Ten Per Cent. Increase in Freight Rates 159

A General Resume of the Stock Market 163
By Henry Hall.

The Course of Commodity Prices 168
By Arthur Selwyn-Brown.

The Stock Market Effect of the Decline of Silver 176
By George Bevan Mott.

The General Business Situation 180
By John P. Ryan.

FOREWORD.

The letters which follow were issued as a part of the market letter service in the year 1908. Whenever an unusually interesting or knotty problem affecting stock prices arises it was considered expedient to consult the authority best able to express a competent opinion. This policy will be adhered to in the future.

To the gentlemen who have so kindly rendered me valuable counsel and opinions during the last year, I wish to express sincere thanks.

T. G.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

SPECIAL MARKET LETTERS

OF

THOMAS GIBSON

BEGINNING FEBRUARY 26, 1908

SUITE 531-2-3-4
CORN EXCHANGE BANK BLDG.
NEW YORK CITY

THE COAL LAND LAW

(Effective May 1, 1908)

February 26, 1908.

A short time ago I promised to investigate the status of the law affecting the coal-carrying railroads. This proved a difficult task, as I have been able to obtain interviews and opinions from Washington only with the understanding that those offering opinions would not be quoted. I am, therefore, compelled to offer these views without naming their source. I will say, however, that every opinion given is from a prominent man whose views are entitled to respect.

The clause of the law referred to is as follows:

> From and after May first, nineteen hundred and, eight, it shall be unlawful for any railroad company to transport from any State, Territory, or the District of Columbia, to any other State, Territory, or the District of Columbia, or to any foreign country, any article or commodity, other than timber and the manufactured products thereof, manufactured, mined, or produced by it, or under its authority, or which it may own in whole, or in part, or in which it may have any interest, direct or indirect, except such articles or commodities as may be necessary and intended for its use in the conduct of its business as a common carrier. (Act of June 29, 1906.)

When the railroad rate bill was pending, there was so much prejudice against the railroads that their Congressional defenders were very few. The paragraph under discussion followed hard upon what was considered grievous wrongs to the public by the coal-owning railroads. Therefore, there was a

pretty general desire to have everything possible done to protect the public. The opinion was quite general that the business of the railroads as common carriers was entirely separate and distinct from the business of coal mining and coal operating. The prevailing view was that these roads had no business dealing in coal—that such business was not authorized or contemplated by their charters. As a consequence there were very few, if any, expressions in their favor by members of Congress. The amendment above cited was put on in the Senate and was never considered by the Interstate Commerce Committee of the House.

Senator ——— took a prominent part in drawing this amendment. In reply to questions about it recently he said that he had never had any doubt of its constitutionality, nor of the practicability of its enforcement if public officials would do their duty—and that, of course, he had no right to question that they would do their duty. He said he thought the railroads had become sufficiently familiar with the temper of public sentiment in favor of this and similar legislation to be willing to obey the law. He was not willing to anticipate disobedience of the law. It seemed to him perfectly clear that the railroads had no business to engage in this coal mining business. He thought that if the railroads should choose, as a pronounced protest against this provision of the law, to close the coal fields, and, as far as possible, to deprive the public of the use of coal, they could greatly inconvenience the public for a time. He did not think they would do this. He supposed that the law would be obeyed, but if it were not obeyed voluntarily that obedience to it would be enforced through the proper channels.

Senator ——— thinks there is no question whatever of the right of Congress to pass this provision of the law and does not doubt that it comes within the powers of Congress to regulate commerce. He thinks the provision is not definite enough and explicit enough to prevent reasonable chances of its being evaded. He fears that the railroads, through holding companies composed of themselves or their subordinates, or in some other way, will get around the law. He is positive in the conviction that as common carriers they ought not to be allowed to continue in the coal business. He is very strong in condemnation of the abuses practised by these coal-carrying railroads. He is positive that the State of Pennsylvania has full power, under its constitution, to prevent these abuses in Pennsylvania. He thinks they are clearly violative of the Pennsylvania constitution, and they would be prevented if Pennsylvania were not in such a large measure controlled by the railroads. He would not anticipate what was likely to happen, but he talked as if quite apprehensive as to the proper enforcement of the provision.

Representative ——— believes fully in this provision. He thinks it was absolutely necessary to prevent the continuation

of the evils that it was intended to correct. He is strong in the conviction that the coal business is not a part of the railroad business and that it should not be allowed. He thinks that as common carriers the railroads should be absolutely prevented from engaging in the coal business. He thinks the provision is entirely within the Constitution and the proper powers of Congress. He believes that while the same people who own the railroads could, of course, under different corporations own the coal mines, the same corporation clearly should not be allowed to own both the railroads and the coal mines. He thinks it might be quite difficult to get a satisfactory enforcement of the provision; that it may be difficult to prevent fraud or connivance in some way whereby the spirit of the law may be disregarded.

Representative ——— expresses the opinion that the provision is clearly constitutional; not only this, but that it is right and equitable. The railroads, he holds, are chartered for the transportation business, not with a view of dealing in coal. They must render impartial service to the public, and not be permitted to remain in a position where they can discriminate in favor of themselves. He says you can not prevent a man from hitching up his wagon and hauling his stuff over the public roads and selling it wherever or to whosoever he pleases; but the railroads are common carriers—public servants—and the conditions surrounding them naturally are altogether different from the situation of a private individual. He appears to entertain no doubt that if any of the roads affected were to try to evade or circumvent the law, and the matter were to be brought to the cognizance of the courts, this legislation would be sustained by judicial action.

Representative ——— thinks that the constitutionality of this provision is doubtful and is uncertain how far Congress can go in regulating corporations; hard sometimes to distinguish between the legal rights of the corporations and the rights or interests of the public. He questions the validity of the legislation. He thinks that the Supreme Court decision declaring the Employers' Liability law unconstitutional might have an important bearing on the provision under discussion. When the Employers' Liability law was being considered by Congress he held to the view that it was unconstitutional. He considers the charter rights of railroads very important in connection with this coal-carrying legislation. A Pennsylvania Supreme Court decision has held that corporations chartered under the old constitution of the State were amenable to the new constitution when they had accepted legislation under the new constitution. He thinks the railroads will try to obey at least the letter of the law—that they will go as far as they can through holding companies or otherwise to avoid any violation that would subject them to prosecution. He does not think they ought to

be required to obey a law that they cannot obey—that they ought not to be expected to confiscate their own property.

Senator ——— says that the provision suggests many doubts and delicate points—that there may be exceptions to which the law should not apply, such as lumber products which was first put in the provision and then left out. He thinks the principle aimed at to affect the coal railroads is a good one and that Congress has the right exercised in the matter so far as it affects interstate commerce. He thinks the railroads will find some way to avoid any serious injury to their property, but he does not think they can secure any corrective legislation in the present temper of the public mind. This Senator is commonly classed among the railroad lawyers and is considered a very good authority on constitutional law.

Representative ——— said that he had not studied the question and could not pass upon it offhand. At first blush, he thought the provision appeared to be unconstitutional—that it seemed an unwarranted interference with the rights of the railroads. This view, however, might be changed upon closer study of the question.

Hon. ———, one of the leading counsel for the railroads, when asked as to the probable attitude of the railroad companies affected by this provision with respect to their compliance with it, said that no decision had as yet been reached as to any action to be taken by them. He did not question but that the railroads would seek to obtain from Congress a modification of this provision. He emphasized the fact that this section of the act was never considered in committee, and that, therefore, the railroad companies had no opportunity to direct the attention of the legislators as to its manifestly unfair character. He seemed to entertain no doubt that upon a proper presentation of the matter Congress would see the necessity for a modification of the law as it is now on the statute book. He expressed a strong hope that some way would be found out of the difficulty short of an appeal to the courts. An enforcement of the law might become confiscatory in its nature and thus would be clearly unconstitutional. Of course, if the railroads fail to obtain from this Congress a modification of the act before it takes effect nothing would remain for them but to appeal to the courts for a conservation of their rights and their properties. He invited attention to the fact that two of the roads to whom this law would apply obtained their charters under the old constitution of Pennsylvania. These are the Delaware & Hudson and the Delaware, Lackawanna & Western. Under their charters they can mine all the coal they want, sell it to whom and as they please and transport it. In respect to this he holds that the rights under these charters, having been granted by one sovereign—the State of Pennsylvania—cannot be taken away or impaired by another sovereign—the United States. As to the

other railroads whose charters were granted under the new constitution of Pennsylvania, or who hold their charters from the legislatures of other States, the problem of transportation of the product of any mines owned by them would not arise until after such product leaves the confines of the State where it is produced. He thought there was no doubt that any of these railroad companies could mine their coal and transport and sell it to some person within the State and not concern themselves any further about its shipment to points outside of the State. He appeared to regard as doubtful the contention set up in some quarters that under the new constitution of Pennsylvania the railroad companies are prohibited from dealing in coal, and that their doing so and not being prosecuted for it indicates dereliction on the part of the officials charged with the enforcement of the law. Mr. ——— also believes that, of course, the railroad companies might comply with the law by selling, or in some other way alienating, their coal properties, but in that event it would have to be shown that it was an absolutely bona fide transaction.

Mr. ———, also of counsel for the railroads, fails to see how a contest in the courts is to be avoided. He does not entertain the least doubt as to the unconstitutionality of the provision in question, and thought that the opinion of the United States Supreme Court, recently handed down in the litigation over the Employers' Liability Act, which was declared to be unconstitutional, clearly indicated the view which that tribunal would probably take in regard to the law affecting the coal roads. Mr. ——— also mentioned the old charters of the two roads already referred to as putting them clearly beyond the regulating power of Congress. While he admitted that the new constitution of Pennsylvania forbids railroad companies to mine coal, he thought that the situation was so complicated by leases and sub-leases that an adjudication of this particular phase would be found extremely difficult.

It may be of interest to call attention to the fact that in the case of Monongahela Navigation Co. vs. United States (148 U. S. 312) the court held, Justice Brewer delivering the opinion, that the general government can exercise the right of eminent domain within the limits of its delegated powers, and in doing so can take the franchise as well as the other property of a corporation by a State without the consent of the State. It will be noticed that his opinion seems to contravene the contention of the two lawyers above cited, that the charters of the Delaware & Hudson and the Delaware, Lackawanna & Western railroad companies place them beyond the jurisdiction of any regulating act passed by Congress.

So far as my personal opinion goes, I will state that I have firm confidence that a way will be found to protect properties and values at all times. The values of the railroads and the

values of the coal properties are tangible things. The mere form of segregation is intangible. If the profits accruing to such a railroad as Reading were based upon exorbitant profits made possible by combination, we might expect this law to injure the stock materially. But there is nothing in the statistics to show that any such state of affairs exists.

Taken as a group, I consider the properties directly affected by this law the cheapest things on the stock list at the present level of prices.

COPPER.

March 26, 1908.

The development of the copper industry of the United States during the last twenty-five years is marvelous. The consumption of copper the world over for that period has steadily advanced and many authorities predict a still higher percentage of increase for the next decade. The history of copper is most interesting, especially in respect to the radical changes that have taken place in the principal sources of the world's supply. In the first half of the eighteenth century England was the world's largest producer. Between 1850 and 1860 Chile supplied one-third and from 1860 to 1870 one-half of the output. Now both these countries have fallen behind, while Mexico has forged ahead to third place, with the United States far in the lead.

The following table summarizes the production of the copper-producing countries of the world by five-year periods from 1881 to 1905:

	1881-85 Tons.	1886-90 Tons.	1891-95 Tons.	1896-1900 Tons.	1901-05 Tons.
United Kingdom	16,082	5,200	2,665	3,000	2,542
Spain and Portugal	215,306	267,592	273,497	263,800	244,996
Germany	74,064	79,551	83,350	104,165	107,735
Austria	2,775	5,061	6,200	5,175	5,535
Hungary	3,240	2,355	1,290	2,165	1,460
Sweden	3,962	3,985	2,790	2,495	2,300
Norway	13,126	7,987	9,092	17,110	25,575
Russia	20,248	23,445	24,980	31,335	46,395
Italy	6,640	8,562	12,300	15,765	15,755
Turkey	...	...	...	2,885	5,130
Chila	202,145	145,785	107,205	120,950	149,915
Venezuela	19,252	22,316	14,950	...	...
Japan	36,300	66,097	91,480	125,325	159,370
China	(Unknown)				
United States	261,649	468,998	760,004	1,179,932	1,643,810
Australasia	56,283	45,987	40,500	89,770	159,235
Argentine	1,792	840	950	565	770
Africa (Algeria)	2,310	590	155	50	...

Africa (Cape)	25,608	34,915	31,520	35,160	31,180
Newfoundland	5,717	8,705	10,170	10,300	10,540
Bolivia	10,594	6,950	12,060	10,850	10,000
Peru	2,041	800	1,920	18,165	40,280
Canada	4,791	10,815	21,000	33,175	95,325
Mexico	1,889	13,771	44,385	82,340	227,660
Totals	985,814	1,230,307	1,552,463	2,154,477	2,985,508

The above table (from The Wall Street Summary) is compiled from "A Century of Copper" by Brown & Turnbull.

The average yearly advance shown by the foregoing table was about 5% for the first two quinquennial periods and slightly more than 7% annually for the remainder.

The production of the United States for 1906 and 1907 by States follows:

State.	1906	1907
Alaska	8,700,000	9,797,000
Arizona	263,200,000	260,356,000
California	24,421,000	28,844,000
Colorado	9,565,000	10,293,000
Idaho	9,493,000	9,860,000
Michigan	224,071,000	234,104,000
Montana	299,850,000	227,663,000
New Mexico	6,262,000	7,730,000
Utah	49,712,000	79,000,000
East and South	18,821,000	19,893,000
Other States	3,525,000	7,564,000
Total (pounds)	917,620,000	895,104,000

The falling off for 1907 was not as large as had been anticipated and the year closed with an almost record production.

The authorities quoted above calculate the world's relative consumption of iron and copper for the years 1881 to 1905 to be as follows:

Years	Pig Iron produced and consumed. Tons.	Per cent of increase.	Copper produced. Tons.	Per cent. of increase.	Per cent. of Copper to Iron	Tons of Pig Iron consumed to 1 ton copper.
1881-1885	103,139,333	.....	985,814	.....	.95	104
1886-1890	120,147,522	16.49	1,230,307	24.80	1.02	97
1891-1895	133,240,380	10.89	1,552,463	26.99	1.16	85
1896-1900	180,349,882	35.35	2,154,477	38.77	1.19	83
1901-1905	233,465,752	29.45	2,895,508	34.39	1.24	80

Since 1860 the highest price recorded for copper (then partly due to the premium on gold) was 55 cents in July, 1864. The low record (9 cents) was reached in June, 1894, exactly thirty years later. The high and low prices of Lake copper from 1881 to date are given in the table below:

High and Low Prices of Lake Copper from 1881 to 1908.

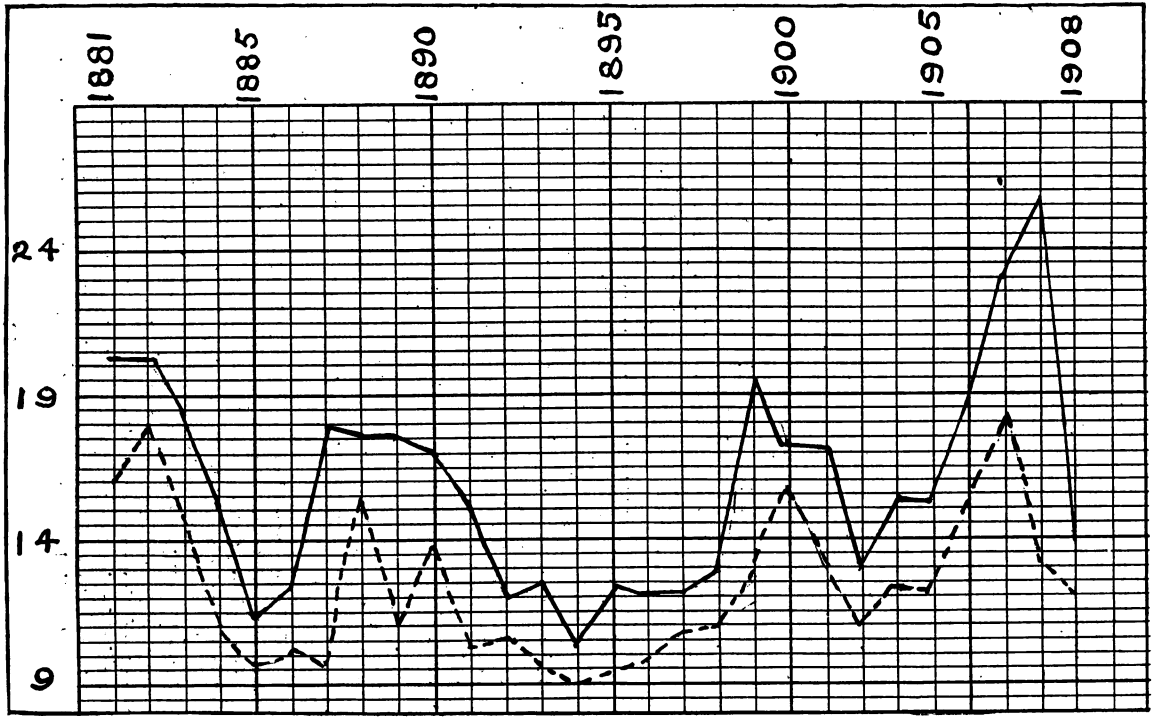
Year.	Highest.	Lowest.
1881	20.375 December	16.000 July
1882	20.375 January	17.875 April
1883	18.125 January	14.875 November
1884	15.000 December	11.000 December
1885	11.875 February	9.800 May
1886	12.125 December	10.000 May
1887	17.750 December	9.950 May
1888	16.600 November	15.850 January
1889	17.500 January	11.000 September
1890	17.250 July	14.000 March
1891	15.000 January	10.250 December
1892	12.375 December	10.500 February
1893	12.500 January	9.600 August
1894	10.250 January	9.000 June
1895	12.250 August	9.375 April
1896	12.000 June	9.750 January
1897	12.000 January	10.750 November
1898	13.250 December	11.000 January
1899	19.375 April	13.250 January
1900	17.250 April	16.000 February
1901	17.000 January	13.000 December
1902	13.500 February	11.000 January
1903	15.375 March	12.000 December
1904	15.375 November	12,250 February
1905	18.875 December	15.000 May
1906	23.350 December	18.116 February
1907	25.560 March	13.393 December
1908	14.000 January	12.250 February

At the date of this letter the price is 13½ cents.

To enable the wide fluctuations given above to be more readily followed I have prepared a chart which illustrates the high and low prices by years from 1881 to date. Average prices have been disregarded because they are not strictly representative of actual conditions.

In this the electrical age the demand for copper will increase by leaps and bounds provided prices are maintained at a legitimate and stable level, as is the case with iron and steel. A fictitious price of twenty-five cents per pound, such as we experienced in 1907, is obviously prohibitive. Sixteen cents is a

Chart Showing High and Low Prices of Lake Copper from 1881 to 1908.



Solid line shows high price of each year. Dotted line indicates low level.

more natural price and besides affording a reasonably fair profit to the mines would in times of normal industrial activity greatly stimulate consumption. This and a wider degree of publicity in their reports by our large mining corporations would inspire confidence in the future of copper securities that is now absent.

From the standpoint of speculation in the copper shares all the foregoing is important. A few months ago I began criticising 25-cent copper and $100 a share for Amalgamated; pointed out the ridiculous price of the metal and called attention to the fact that the market price of such stocks as Amalgamated was based on conditions which could not endure. In the weekly letter of April 20, 1907, a table was produced to show the flexibility of copper prices and the effect of a decline in the metal on earnings. Here is the table. The figures were obtained from the county clerk at Butte, Montana, covering 1901 and 1902:

Net Earnings of Constituent Companies of Amalgamated Copper Company, Years 1901 and 1902.

Anaconda	$1,289,610	$5,069,071
Boston & Montana	1,630,695	7,042,303
Butte & Boston	166,136	586,053
Parrott	577,617	510,196
Colorado Mining	152,495	303,619
Total	$3,816,553	$13,511,242

When the letter mentioned was written copper was selling at 25 cents per pound, and the conclusion offered was as follows:

"It is my opinion that the price of this metal is being fictitiously sustained and that it must soon decline."

But now we have a different proposition. The price of the metal went too high. Now it is too low. The price of copper stocks also went too high. I think they are too low now. It will be understood that this opinion refers to the copper stocks as a class and not to any individual security.

SPREADS AND STRADDLES.

May 28, 1908.

I have recently recommended sales of Baltimore & Ohio as opposed to purchases of Atchison, provided both operations were made at the same time in equal amounts. I wish to offer the figures on which this advice was based.

As a general rule I do not care about these stock market "straddles," but there are periods of doubt where statistics show one stock selling out of line with another, but when we are out of the market and want something to worry about it is probably better to make such commitments as this than to attempt to operate on either side directly.

It will be understood that in offering advice of this kind

I do not mean to say that there will be immediate results. I remember that in 1907 I advised sales of New York Central and purchases of Pennsylvania at the time when New York Central was selling above Pennsylvania, and that it was some time before the leaven began to work. This may be true in the present case.

On April 16 I issued a special letter, giving full details of the affairs of the Atchison, Topeka & Santa Fe R. R. Co. Copy will be sent to clients who have not received it on application.

The figures on Baltimore & Ohio and Atchison are as follows:

BALTIMORE & OHIO.

	Gross.	Net.	Per cent. to Gross.
July, 1907	$7,251,903	$2,304,588	31.78%
August	7,724,307	2,662,327	34.47
September	7,465,051	2,432,135	32.58
October	7,790,677	2,493,393	32.00
November	6,998,553	2,004,456	28.93
December	5,654,653	1,092,443	19.34
January, 1908	5,177,120	1,012,575	19.56
February	4,682,348	573,340	12.25
March	5,310,640	1,150,251	21.66
Total	$58,055,252	$15,725,508	232.57
Average			25.84%

ATCHISON (a).

July 1907	$7,939,555	$2,590,860	36.43%
August	7,988,890	2,384,461	29.86
September	8,077,118	2,504,808	31.01
October	8,572,456	2,465,440	28.76
November	8,021,125	1,980,408	24.69
December	8,140,482	2,501,984	30.74
January, 1908	7,316,675	1,941,859	26.54
February	6,752,552	2,322,420	34.39
March	7,401,519	2,938,914	39.71
Total	$70,210,372	$21,631,154	282.13
Average			31.34%

(a) The figures given for Atchison are before deducting taxes. For the entire fiscal year ending June 30, 1907, this item was $2,502,650, or, say, an average of $208,554 per month. Reduced to a percentage basis this would average 2.98% per month, thus showing that Atchison has its operating expenses better in hand than the B. & O.

The percentage of operating expenses to earnings of the Atchison for the fiscal year ending June 30, 1906, was 61.89%.

For 1907 the percentage was increased to 62.84%. The figures for 1906, however, are not precisely parallel in every instance, but are sufficiently close to make the exhibit authoritative.

For Baltimore & Ohio the percentage of expenses to earnings were 66.66% for the fiscal year ending June 30, 1907. In 1906 the percentage was 63.09.

Perhaps the simplest (although by no means an accurate way) of graphically making such an exhibit would be to take the earnings of each company for the month of March, 1908, thus:

BALTIMORE & OHIO.

March, 1908.

Gross earnings	$5,310,640
Operating expenses	4,160,389
Expenses to earnings, per cent.	78.34
Net earnings	1,150,251
Other income	*336,251
Total net income	1,486,502
Interest, rent, taxes, etc.	1,162,768
Balance for dividends	323,734

* Estimated on basis of last annual report.

ATCHISON.

March, 1908.

Gross earnings	$7,401,519
Operating expenses and taxes	4,704,370
Expenses to earnings, per cent.	63.56
Net earnings	2,697,149
Total net income	2,759,913
Interest on bonds, etc.	957,328
Other deductions	50,049
Balance for dividends	1,752,536

The following statement shows the sums charged for maintenance of way and structures during each year since July 1, 1901, by the Atchison system:

Year ending June 30.	Average Operated Mileage.	Total Expenditure.	Expenditure Per Mile.
1902	7,855.38	$6,141,466.39	$781
1903	7,965.13	9,304,892.04	1,168
1904	8,179.59	9,170,234.07	1,121
1905	8,305.40	11,385,418.33	1,370
1906	8,433.99	12,475,407.97	1,479
1907	9,273.15	15,286,062.66	1,648

Expenses for maintenance of way were largely increased by reason of extensive relocation and reconstruction of line in order to reduce grades and curvature, necessitating the

abandonment of portions of line as originally constructed. In every such case the cost of construction of the railroad or property abandoned was charged to maintenance of way, while only the additional cost of the new construction was charged to capital account.

The following statement shows the sums charged by the Atchison system for maintenance of equipment during each year since July 1, 1901:

Year ending June 30.	Average Operated Mileage.	Total Expenditure.	Expenditure Per Mile.
1902	7,855.38	$7,864,951.25	$1,001.22
1903	7,965.13	8,510,543.09	1,068.48
1904	8,179.59	10,006,135.41	1,223.31
1905	8,305.40	10,914,864.47	1,314.19
1906	8,433.99	10,720,040.43	1,271.05
1907	9,273.15	11,779,846.64	1,270.32

BALTIMORE & OHIO RAILROAD COMPANY.

Maintenance of Way and Structures.

Year ending June 30.	Average Operated Mileage.	Total Expenditure.	Expenditure Per Mile.
1902	3,233.50	$7,235.389	$2,234
1903	3,935.12	6,175,116	1,569
1904	3,986.61	6,839,883	1,716
1905	4,025.98	7,852,636	1,951
1906	4,029.93	9,330,859	2,316
1907	4,006.32	10,542,498	2,632

Maintenance of Equipment.

Year ending June 30.	Average Operated Mileage.	Total Expenditure.	Expenditure Per Mile.
1902	3,233.50	$7,384,331	$2,284
1903	3,935.12	8,270,157	2,101
1904	3,986.61	10,530,211	2,641
1905	4,025.98	10,937,106	2,718
1906	4,029.93	12,514,984	3,106
1907	4,006.32	13,448,502	3,357

A very interesting analysis of the March statement of Atchison was published in the "Wall Street Journal" of April 30, from which I venture to make the following extracts:

> Atchison's statement for March is the best showing that road has made since the beginning of the depression, and is one of the most encouraging exhibits that any of the railroads have recently made.
>
> The significance of the March statement lies in the operating ratio of 60.3 per cent., which is lower than that of March, 1907.

These figures (referring to operating ratio for several months) demonstrate how effective for this road have been the efforts of economical management which all railroad managers have put forth since the tremendous drop in earnings took place at the end of 1907. On a road like Atchison, which has charged its maintenance accounts heavily in the past, it will very likely be found that the saving has been accomplished more in the maintenance departments than in operation proper. However the saving may have been accomplished, the fact is the that the March statement of the Atchison shows its fixed charges and preferred dividends covered, with a balance of something over $700,000 to represent earnings on the common stock. This is considerably in excess of the common dividend rate as it now stands. In January and in November as well, the road was not earning as much as 5 per cent. on the common.

Thus the Atchison has passed through what railroad men generally declare to be the worst of the post-panic depression with its dividend requirements well covered, and with the promise, recorded in its surprisingly low operating ratio for March, of a substantial improvement during the last quarter of the fiscal year.

The same authority in discussing Baltimore & Ohio under date of May 23, says:

It has already been jointed out in these columns that the Baltimore & Ohio's earnings during the present fiscal year have not been such as to encourage the expectation that the company would meet the dividend issue any differently than have the Pennsylvania, New York Central, Norfolk & Western and other roads. The company's latest returns simply confirm the same conclusion.

The assets and liabilities as of June 30, 1907, for each of the companies are set forth in the general balance sheets, which follow:

BALTIMORE & OHIO.

Capital Assets.

Cost of road, including bonds and stocks pledged with trustees as security for funded debt issued:

Cost of road	$165,066,928.47	
Bonds and stocks held by trustees.	174,605,265.11	
		$339,672,193.58
Real estate		7,462,337.47
Gas and electric plants.		711,947.81

Equipment:			
Rolling stock	$47,218,390.06		
Marine equipment	1,095,762.20		
		48,314,152.26	
Total			$396,160,631.12
Securities owned:			
Bonds—			
Baltimore & Ohio Railroad Co.	$17,829,379.27		
Sundry other companies	5,568,109.11		
		23,397,488.38	
Stocks—			
Baltimore & Ohio Railroad Co.	$1,215,845.18		
B. & O. Equipment Company	1,000,000.00		
Sundry other companies	30,231,815.39		
		32,447,660.57	
Total			55,845,148.95
New bonds and stocks held to retire old securities			248,425.21
Insurance fund			884,278.59
Materials on hand			6,371,071.32

Current Assets.

Cash in hands of treasurer	$5,914,377.87	
Cash on deposit with fiscal agents to pay accounts	5,759.80	
Due by other companies for advances:		
B. & O. Equipment Company	$14,114,451.50	
Other companies	1,703,325.91	
	15,817,777.41	
Due by individuals and companies	27,490,340.42	
Traffic balances	1,578,841.11	
Due from agents	4,515,182.16	
Loans and bills receivable	5,715.75	
Miscellaneous	590,662.95	
Total		55,918,657.47
		$515,428,212.66

Capital Liabilities.

Capital Stock:		
Preferred	$60,000,000.00	
Common	152,174,829.00	
Paid on subscription to additional issue of $27,500,000 common stock	.....	
		212,174,829.00
Funded debt		249,290,430.00
Capital liabilities issued		$461,465,259.00
Subsidiary companies' bonds assumed		11,095,181.38
Total		$472,560,440.38

Current Liabilities.

Accounts payable for current expenditures, etc.	$6,161,599.10	
Loans and bills payable	1,983,128.00	
Sundry balances	1,715,585.81	
Matured interest on bonds unpaid	98,862.56	
Accrued interest on funded debt	3,553,458.64	
Dividends on stock unpaid:		
Declared, but not due $5,765,244.87		
Due, but not called for 67,975.63		
	5,833,220.50	
Accrued taxes and ground rents	32,439.26	
Relief departments	2,385,110.52	
Miscellaneous	1,364,825.87	
Total		23,128,230.26
Profit and loss		19,739,542.02
		$515,428,212.66

ATCHISON.

Assets.

	June 30, 1907.
Railroads, franchises and other property, including stocks, bonds, etc.	$490,638,939.58
Expenditures for improvements, construction, equipment and other capital purposes during current fiscal year	15,320,147.49
Total	$505,959,077.07
Investments, new acquisitions	6,349,770.98
	$512,308,848.05

Balance from capital account	$11,007,068.05
Other investments	6,695,281.43
Material and supplies	10,681,682.89
Prepaid insurance premium	102,105.94
Cash deposit for fuel reserve fund	578,945.78
Accounts receivable	7,085,626.70
Cash on hand and in bank	8,215,521.35
	$44,366,132.14

Liabilities.

	Balances.
Capital Stock:	
Outstanding	$217,130,230.00
Funded Debt:	
Bonds outstanding	284,171,550.00
Balance carried down	11,007,068.05
	$512,308,848.05
Bridge renewal fund	$234,442.33
Fuel reserve fund	578,945.78
Rail renewal fund	873,426.73
Rolling stock replacement fund	155,037.71
Tie renewal fund	732,613.89
Dividends on preferred and common stock:	
No. 18 on preferred stock, payable Aug. 1, 1907 $2,854,345.00	
Unclaimed dividend 22,942.75	
	2,877,287.75
Accrued taxes not yet due	1,117,044.04
Interest on funded debt	4,013,559.59
Accounts payable	13,666,899.96
Prior accounts in liquidation	50,000.00
Profit and loss: surplus	20,066,874.36
	$44,366,132.14

In addition to the statistical exhibit given above there are several other things to be considered. From a technical standpoint Atchison has already reduced its dividend to such proportions as would warrant the next change in disbursements being to higher rather than to lower figures. Therefore, their troubles are over. Baltimore & Ohio, on the other hand, should reduce the dividend in order to get themselves into line on a business basis. The actual reduction of the Baltimore & Ohio dividend I would not consider a bear factor; in fact, I should think it was a bull factor at the time it came to pass, but meanwhile there is a bad sentimental effect preceding the actual action.

We should also consider the fact that the earnings of Baltimore & Ohio are not so speculative as those of Atchison. That is to say, the character of traffic is more stable and any increase or improvement would be gradual, while the territory traversed by the Atchison Railroad is largely dependent on crop conditions which at present offer an excellent promise. It looks now as if we were to have a good yield of winter wheat in southwestern Kansas, and this means not only the traffic created by wheat itself when it is shipped to market, but the purchasing power of the communities. From the speculative point of view, therefore, we have more to consider in looking at Atchison than in looking at Baltimore & Ohio, and again speaking from the speculative standpoint, I think the Atchison securities look better than the Baltimore & Ohio stocks.

For the reasons briefly outlined above I have recommended the "straddle" between Baltimore & Ohio and Atchison. I think the two stocks will cross in price before long. It will be understood, of course, that opinions of this kind are subject to change at any time that I find a change in the statistics or conditions.

COPPER.

June 4, 1908.

The special market letter of March 26 of the present year discussed the development of the copper industry of the United States during the last twenty-five years and also gave a summary of the world's production, by five-year periods from 1881 to 1905. The demand for that letter was so constant that I avail of this occasion to state that a number of copies of the letter still remain on hand and I will be pleased to distribute them to new subscribers who may not have received it as well as to those desiring an additional copy. The general interest in copper securities justifies a second letter on the subject.

Without question, iron, steel and copper are true barometers of our business conditions. In the past, iron and steel have moved more rapidly than copper in the direction of improvement after a depression. However, this is changing and it is more than likely that their conditions will be reversed as the electrical era we are now entering progresses and consequently makes the demand for copper decidedly greater than it is now. At the present time it is impossible to reach an accurate conclusion regarding the yearly volume of consumption of this metal—suffice it that it is constantly increasing, and in times of normal business activity the selling price alone prescribes the limit.

As was stated in previous advices, the fictitiously high price of 1907 was prohibitive. On the other hand, the present selling

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

price is decidedly too low. The "cleaning process" brought about by the industrial depression that commenced in the fall of 1907 must eventually prove beneficial to the majority of our copper-producing mines. With copper selling at a proper level of, say, sixteen cents a pound, the increasing demand will more than justify present market levels of the capital stocks of a number of the principal producers of the metal.

An informing article on copper was published in the "Wall Street Summary" of June 1, which I quote literally as an interesting résumé of present conditions of copper, the metal:

> Of late the copper metal market, while there has been no material advance in prices, has shown a distinctly improved tone, and whatever metal that has come on the market has been quietly absorbed. Transactions in the metal are occurring at a higher level than the quoted prices on the Metal Exchange. The export demand, which has been the mainstay of our market for some time, continues larger. The exports for May were 22,640 tons. While this is a decrease of about 9,000 tons from April, it is about 1,000 tons more than the exports for March, and an increase of 13,640 tons from May of last year. James McLean, of Phelps, Dodge & Co., one of the foremost houses dealing in copper metal, to-day had the following comments to make on the copper metal situation to a representative of the "Wall Street Summary:"
>
> "The demand for copper metal from consumers has been increasingly better for the last few weeks. At prsent it is good. There is a general demand from all over the country for casting copper, that is, copper for manufacturing purposes. The demand for electrolytic has picked up somewhat. The recent placing of a number of loans by various railroads on favorable terms is an indication that financial conditions will not much longer act as a check on consumption. It is expected that the trolley companies will also soon be able to finance their needs.
>
> "There has been no accumulation of stocks recently, the export demand being sufficient to take care of all the metal not taken by domestic consumers. This export movement, in which this firm took a large part, is, in our opinion, the result of a thoroughly legitimate, non-speculative demand. The exports to Continental Europe were much heavier than to England; those to Germany increased about 70% over last year, to France about 40% and to England about 12%. At present Europe is quietly picking up copper as it is offered; if, however, our prices should start to go up, I expect that there would be a further demand from abroad.
>
> "To show the increased domestic demand, firms which were recently purchasing about 500,000 pounds at a time are now contracting for from 1,000,000 to 2,000,000 pounds

monthly. The supply of metal not being large and financial conditions being so much improved, with further improvement in sight, we expect a material rise in price, and an increased demand.

"It is not expected that the output from the Ely Camp will reach the market in quantity until 1909. These mines are very low-grade propositions with about 1½% ores, as against 5% and 6% ores in the high-grade mines; and, while they can be worked by steam shovels, competition is not feared by the old companies. It is probable that, by the time the output of Ely Camp reaches the market, the demand will have increased to such an extent as to absorb all the copper offered without difficulty."

Apprehension has frequently been expressed regarding the permanence of the copper supply. Perhaps this may be set at rest by the fact that copper contained in quartz formation has never, as yet, given out. Mr. Horace J. Stevens, in his Copper Hand Book for 1907, states that the discovery and utilization of copper occurred at a period so remote that even legendary accounts of it are lacking. He also says that "There were copper mines worked in Asia Minor before the alleged date of the discovery of iron, and there seems good reason to think that copper and tin in the form of bronze, an alloy of these two metals, was in general use before the discovery of the process of producing iron from its ores." Quoting from the same work: "The Rammelsberg mines in Germany have been producers for nearly a thousand years. The Mansfield mines, in the same country, opened in 1193 A. D., have been fairly steady producers for about 700 years. Both these properties have developed into very large and successful mines by the use of modern methods and equipment. The Rio Tinto (in Spain) is the most ancient of the great mines of the present day and its history stretches back into the mists of antiquity. The first authentic account of the mines dates from the eleventh century B. C."

It is worthy of more than passing comment that these mines are to-day constant producers, as is shown in the following table, which also gives the production of other of the world's leading mines for the year 1905—the latest authentic figures that are available.

Calumet & Hecla	95,100,610	pounds
Anaconda	95,000,000	"
Rio Tinto	72,307,200	"
Boston & Montana	89,000,000	"
Mansfield	43,824,141	"
Copper Queen	64,570,847	"
Rammelsberg	3,527,360	"

The leading copper mines of the United States are shown in the following table in the order of precedence in production. The figures are in pounds avoirdupois:

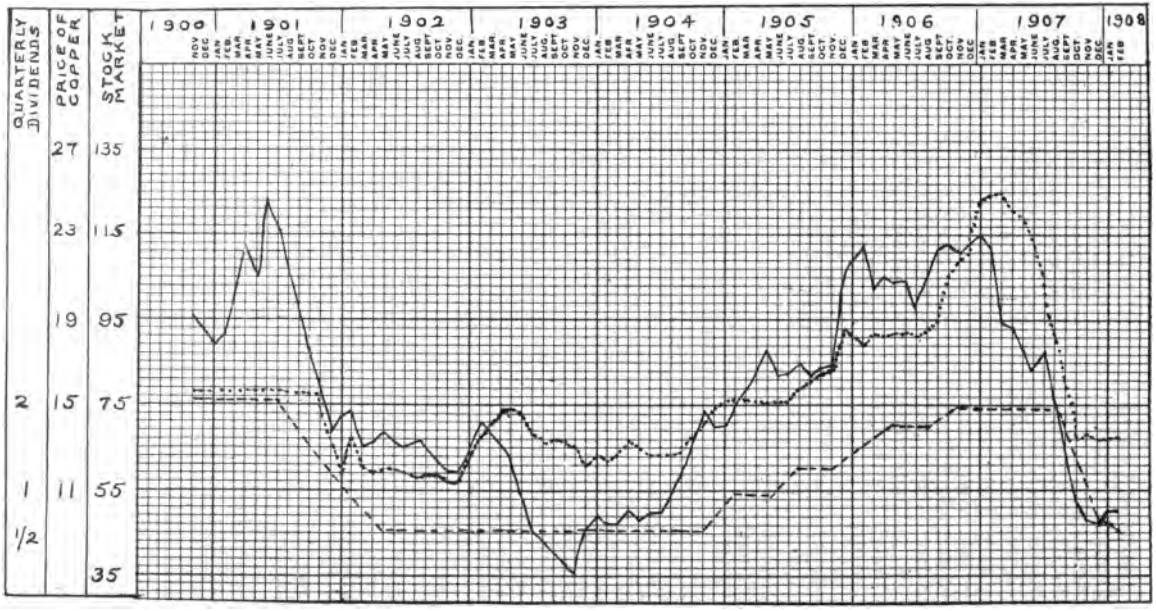
Year.	Mine or Company.	Location.	Output.
1905	Calumet & Hecla	Michigan	95,100,610
"	Anaconda	Montana	95,000,000
"	Boston & Montana	Montana	89,000,000
"	Amer. Smelt. & Ref. Co.	U. S. (and Mex.)	72,952,000
"	Copper Queen	Arizona	64,570,847
"	United Verde	Arizona	33,000,000
"	Copper Range	Michigan	32,714,859
"	Calumet & Arizona	Arizona	31,772,896
"	North Butte	Montana	30,954,788
"	United Copper Co.	Montana	27,081,350
"	Arizona Copper Co.	Arizona	26,836,000
"	Osceola	Michigan	18,938,965
"	Quincy	Michigan	18,827,557
"	Original	Montana	18,000,000
"	Utah Consolidated	Utah	17,264,474
"	United States Mining Co.	Utah	15,841,667
"	Tamarack	Michigan	15,824,008
"	Champion	Michigan	15,707,426
1904	Old Dominion	Arizona	15,368,147
1905	Detroit	Arizona	14,692,421
"	Bingham Consolidated	Utah	14,396,269
"	Baltic	Michigan	14,384,684
"	Trenton	Montana	12,500,000
"	Butte & Boston	Montana	12,000,000
"	Shannon	Arizona	11,027,453
"	Trimountain	Michigan	10,476,462
"	Mountain	California	10,000,000
"	Wolverine	Michigan	9,464,418

The production of copper (in pounds) in the United States, by states, for 1906 and 1907 follows:

	1906	1907
Alaska	8,700,000	9,797,000
Arizona	263,200,000	260,356,000
California	24,421,000	28,844,000
Colorado	9,565,000	10,293,000
Idaho	9,493,000	9,860,000
Michigan	224,071,000	234,104,000
Montana	299,850,000	227,663,000
New Mexico	6,262,000	7,730,000
Utah	49,712,000	79,000,000
East and South	18,821,000	19,893,000
Other States (a)	3,525,000	7,564,000
Total	917,620,000	895,104,000

(a) Includes Washington, Oregon, Nevada, Wyoming, South Dakota, Texas, Missouri and also some copper originating in the

Chart Showing Average Monthly Stock Market Movements and Quarterly Dividends of Amalgamated Copper for Years 1900 to 1908; also Average Monthly Price of Electrolytic Copper for Same Period.



Solid line indicates an average price between high and low stock market movements by months. The chart does not show the extreme high or low stock prices, simply an average between both.

Broken line shows quarterly dividend payments. Dotted line represents average monthly price of electrolytic copper.

states mentioned in the table which can not be accurately distributed among them.

The following chart is reproduced from a former letter in order to show that stock-price movements are dependent on the fluctuations in the price of the metal.

While the above chart is based on the movements of Amalgamated alone, it is certain that this principle is applicable to copper securities generally. In offering this opinion I wish to inject a saving clause. There are dozens of corporations not recognized in the financial world, every one of them will claim in their prospectus that they can make copper at six or seven cents. In my opinion it is unsafe to touch any of these unlisted stocks without careful investigation.

I think copper metal will advance gradually from the present level until a price of 16 or 17 cents is established, and that this improvement will be anticipated by advances in the stocks of reputable copper mining companies.

PROBABLE EFFECT OF TARIFF REVISION ON SECURITIES.

June 9, 1908.

With the merits or demerits of protection or of high vs. low tariff duties, the investor, as an investor, is not concerned. With the effects of tariff changes on the values of securities, the investor is greatly concerned.

That the present, Dingley, tariff law will be changed soon is highly probable. It has already broken the endurance record of tariff laws. The demand for a change is almost unanimous. It comes from both the leading parties and from nearly all classes of citizens. Laborers, farmers and even manufacturers are asking for a tariff commission to revise tariff duties downward. Acting upon President Roosevelt's suggestion, Congress has made preparations for tariff revision by authorizing its committees to appoint experts to study the schedules and report on needed changes, study the problem, prepare data and have it ready for the next Congress, which next Congress, according to the present program, is to be called in extra session, soon after March 4, 1909.

It is, then, fairly safe to assume that an attempt to make a general revision of the tariff will be made in the spring or fall of 1909—more likely the fall. Should the Republicans succeed in the coming election, the "Stand-pat" element, which still dominates this party, would make an heroic effort to prevent revision. They would probably be unsuccessful, though

they might prevent the calling of an extra session of Congress and radical tariff reduction. This, however, is not certain. The pressure for the reduction or abolition of duties on certain materials and on trust products sold at lower prices abroad than at home would be very great and probably could not be withstood. In most instances, however, a compromise would be reached which would prevent the entire abolition of only a comparatively few duties and would limit the reduction of most of the obnoxious duties to one-half of the present rates.

Should the Democrats succeed it is probable, though not at all certain, that a more radical revision of the tariff would be undertaken. It is, however, less certain that an extra session of Congress would be called to act upon the tariff. Should there be a big Democratic majority in the House a radical bill would probably go to the Senate. This bill would put many trust products on the free list, would remove many and reduce other duties on raw materials of manufacture and would correspondingly reduce the duties on finished products. This bill, in a somewhat modified but still radical form, would probably get through the Senate in the summer of 1910, even though, as is reasonably certain, that body should remain Republican by a reduced majority.

Should the Republicans win in next November's election, it is likely, then, that a moderate tariff revision bill would become law by the middle or early in 1910. Should the Democrats win, a more radical bill would probably become law by the middle or end of the year 1910. The statements, issued recently from Washington, that, in the event of Democratic success next fall, the Republicans would undertake to revise the tariff at the short session of the present Congress, are probably unfounded and unwarranted.

Contrary, perhaps, to the prevailing opinion among business men, the chances of success are fully as good for the Democrats as for the Republicans. No administration in our history has survived a panic. There is no apparent reason why history should fail to repeat itself as to the present administration. There are, on the contrary, some reasons why, even with a weak candidate, and in spite of much dissension, the Democratic party should win this year.

With this preliminary discussion as to when and how the tariff is likely to be revised, which is, of course, highly conjectural and problematical, we will proceed to consider the probable and, indeed, almost certain effects upon the values of many corporation securities that would result from the abolition of tariff duties on certain products. It is easier to make the computations on this basis and then to make allowances for what might actually happen.

Although the values of all securities would be affected by tariff changes, space will permit the special consideration only

of the effects upon some of the more important stocks. Those that would be most affected are the steel, sugar, paper, lead, leather, woolen and rubber stocks. The most important will be considered first.

United States Steel.

Beyond question the corporation which is likely to suffer most by tariff reduction is the United States Steel Corporation. Not only this, but the pressure for lower duties bears most heavily upon this corporation. This corporation is, in fact, the keystone of protection. Hundreds of important industries, manufacturing implements, machinery and tools, are urging Congress to reduce the duties on steel so that they can obtain American steel, in this country, as cheaply as their foreign competitors obtain American steel, in other countries. They know that the great steel corporation has not only used its powerful influence to prevent tariff reduction, but has blocked the passage of bills to liberalize our tariff drawback laws, so that our manufacturers of farm implements will be handicapped as little as possible in foreign countries.

For these reasons and because steel is made cheaper in this than in any other country and, therefore, needs no protection, the tariff storm, when it breaks, is reasonably certain to do most damage to the securities of the Steel Corporation.

The following table gives the statistics of production of the United States Steel Corporation for the year ending December 31, 1907, the rate of duty on each important product, the estimated effective rate of duty, and the estimated tariff profit:

Tariff Profits of the United States Steel Corporation.

Rolled and other finished products for sale:	Production Tons.	Duty rate per ton.	Duty rate. Effective.	Estimated Tariff Profit.
Steel rails	1,733,814	$7.84	$7.00	$12,136,698
Blooms, Billetts, Slabs, Sheet and tin plate bars	758,699	$6.72 to $105.48	5.00	3,793,495
Plates	877,682	$11.20 up	8.00	7,021,456
Heavy structural shapes	587,954	$11.20 up	7.00	4,115,978
Merchant steel, skelp, hoops, bands and cotton ties	1,316,387	$11.20 up	8.00	10,531,096
Tubing and pipe	1,174,629	35% to $44.80	6.00	7,047,774
Rods	126,095	$8.96 up	7.00	882,675
Wire and products of wire	1,481,226	$11.20 up	12.00	17,774,712

Rolled and other finished products for sale:	Production Tons.	Duty rate per ton.	Duty rate. Effective.	Estimated Tariff Profit.
Sheets, black, galvanized and tin plate	1,070,752	$21.16 up	15.00	16,061,280
Finished structural work	719,887	$11.20 up	8.00	5,759,096
Angle and splice bars and joints..	195,157	$8.96 up	8.00	1,561,256
Spikes, bolts, nuts				
Axles	189,006	$22.40 up	8.00	679,910
and rivets.	67,991	$13.44 to $44.80	10.00	1,517,048
Sundry iron and steel products. ..	77,463	$11.20	7.00	542,241
Totals..	10,376,742			$89,424,715
Less exports	1,014,082			9,424,715
Sales in domestic markets.	9,362,660			$80,000,000

It is not pretended that these were the rates of duty effective in 1907. It is believed that they are about the average for a period of years. The effective duties in 1908 will probably exceed the above rates. The present price of steel products and goods will probably average $10 a ton above the prices of the same products in foreign markets. Were there no tariff duties the prices would average about the same in both countries.

The Steel Corporation has greatly increased its exports since the panic, notwithstanding that the prices of steel in foreign markets have declined far more than at home. In one instance this year 100,000 tons of tin plate bars were exported to Wales at about $12 a ton below the home price. Tin plate, barb, and other wire and wire nails are probably exported now at from $10 to $20 a ton less than the home price.

The report of the Steel Corporation for 1907 says (page 29):

"The average mill price per ton received for all exported materials was only 7½% less than the average price received for all domestic shipments."

As the average selling price of these steel products is about $40 a ton, an average difference of 7½% would mean $3 a ton. This word "average," however, may be, and probably is, very misleading. It is undoubtedly true that the goods exported in 1907 were, as a whole, much more highly finished than was the bulk of the goods sold at home. They consisted largely of barb and other wire, wire nails, plates, tin plates, etc. The average domestic price of this class of goods is, perhaps, $45 per ton. If they were sold for export at an average of $35 per ton, they were, in reality, sold $10 per ton below the home price, though they might have been sold only $3 per ton below "the

average price received for all domestic shipments," which were composed largely of steel rails, billets, merchant steel, tubing, structural material, etc. The per ton price of the exported goods might easily have exceeded the per ton price of the domestic goods and still have been $10 per ton below the domestic price for the class of goods exported.

As the total net profits of the Steel Corporation, after deducting $35,000,000 for repairs, etc., were $160,964,673 in 1907, the average tariff profit is just about half of this amount. Deducting about $30,000,000 for interest and sinking fund on bonds, we would have had left, in 1907, even without tariff duties, $50,000,000 for dividends. After paying 7% on the preferred and 2% on the common stock there would still have been left $15,000,000 for depreciation, replacement, new construction, etc. This sum would be entirely inadequate. About $80,000,000 was charged off or set aside for these purposes last year. At least $40,000,00 is required for these purposes in order to maintain the present status of the Steel Corporation in the steel industry.

Even in the extraordinary year of 1907, then, no dividend could have been paid on "Steel common" had there been no duties on steel. The dividends on "Steel preferred" would probably average no more than 5%, under free trade in steel, were it not for the fact that the present producing capacity will be greatly increased out of the surplus earnings of the last two years.

The above estimates are based upon the worst that could happen to the Steel Corporation, when the tariff is revised. If tariff duties on steel should be reduced no more than an average of 50%, the loss in profits would not be very great. A 75% cut would not reduce profits more than $40,000,000. It is probable, however, that nearly all duties on steel will be removed when the tariff is revised. Conservative investors should figure on a yearly reduction of profits of not less than $60,000,000 because of the tariff reduction that is probable in the next two years. This is after making allowance for a 10% to 20% increase in the consumption of steel because of the lower prices at which it would sell under the free steel.

One other factor should not be overlooked. The depreciating value of gold is adding millions of dollars a year to the assets of the Steel Corporation. Were there no offsetting factor this appreciation would soon make the common stock valuable. The off-setting factor consists of the rapidly increasing taxes on the ore and coal lands of the Corporation. Thus, the State of Minnesota increased the assessed value of its iron ore lands from $64,486,409, in 1906, to $194,428,928 in 1907. The Steel Corporation pays taxes on all the ore lands leased from the Great Northern Railroad.

Other Steel Stocks.

It is hardly necessary to say that the common stocks of most of the other steel-producing companies would suffer equally with the common stock of the United States Steel Corporation should the import duties on steel be removed. The more important of these are the common stocks of the Republic Iron & Steel, the Bethlehem Steel, Colorado Fuel & Iron, the Sloss-Sheffield, the Lackawanna and the Pennsylvania Companies.

Some of the steel consuming companies that would probably gain more than they would lose by free and cheap steel are the American Car, American Car & Foundry, American Locomotive, American Steel Foundry, International Pump, Pressed Steel Car, Railway Steel Spring, and United Cast Iron Pipe & Foundry. General Electric and Westinghouse Electric would also probably gain by free steel.

Most of the other steel consuming companies would gain far more than they would lose by cheap steel. These include the manufacturers of mowers, reapers, threshers, cultivators, wagons, carriages, automobiles, etc., etc.

Sugar Securities.

Next to the iron and steel producing corporations that are perhaps most benefited by tariff duties are those of the American Sugar Refining and American Beet Sugar Companies.

Something like 6,000,000,000 pounds of sugar are consumed annually in this country. Perhaps 4,500,000,000 pounds, or 2,000,000 tons, are refined by the American Sugar Refining Company. The duty on raw sugar varies from .95 to 1.875 cents per pound. The duty on refined sugar is 1.95 cents per pound. The net protection on refined sugar, however, is much more than 12.5 cents per hundred pounds. There is hidden protection on the raw sugar amounting, perhaps, to 8 cents per hundred pounds. This makes the total protection on refined sugar about 20 cents per hundred pounds, or $4.50 per ton. The total net protection to the American Sugar Refining Company, then, is about $9,000,000 a year. This is more than the total amount paid in dividends.

It is not probable that the whole of this protection would be abolished by a general tariff revision law. It is probable, though, that the 12.5 cents would go, thus reducing profits about $5,000,000 a year. This is probably half of the yearly net earnings. The price of Sugar common stock, then, would be worth, if deprived of direct protection, less than half its present value. The price of the preferred would shrink materially.

The stocks of the National and other sugar refining companies would also decline because of reduced duties. The stock

of the American Beet Sugar Company would also be materially affected, but would not lose all value unless the duty on raw sugar were removed or greatly reduced. This will probably not occur until new means of obtaining government revenues are found.

The International Paper Company.

The stocks of this corporation would lose much of their present value if, as the President recommends, and as will probably come to pass either in this or the next Congress, the entire duty of $1.67 per ton on wood pulp and of $6 on news print paper is removed. The securities of many publishing companies will gain what those of the International Paper Company will lose.

National Lead.

The duties of from 2 to 4 cents per pound on lead will probably be reduced by one-half, if not entirely abolished, when the tariff is revised. This amounts to about $2,200,000 a year. The larger part of this goes to protect the National Lead Company, the common stock of which would have but little value if profits were reduced by $2,200,000 a year.

Central Leather.

The duties on hides, sole and other leather will probably come off when the tariff is changed. The removal of these duties will affect the values of the stocks of the Central (sole) Leather and the United State (sole) Leather companies; the American Hide & (upper) Leather Company; the beef-packing companies; the shoe-manufacturing companies, and of many other leather-producing and consuming companies.

The removal of the duty on hides would, perhaps, benefit the sole leather manufacturers as much as the removal of the duties on sole leather would injure them. The greatest losers by such action would probably be the beef packers, and the greatest gainers the manufacturers of shoes, harness, carriages, automobiles, etc.

Glass Companies.

The duties on window, plate and other glass will probably be greatly reduced and the securities of the American Window Glass Company and the National Glass Company will lose much of their present value.

Some of the other stocks that would probably suffer by tariff reduction are those of the United States Rubber, National Biscuit, American Woolen, Allis-Chalmers and Union Bag & Paper companies.

The effect of tariff reduction, after the agony of the process is over, will be beneficial to most other securities and espe-

cially to those of the railroads. Cheaper iron, steel and lumber will not only reduce the cost of tracks, stations, bridges and equipment, but will greatly increase the quantities of these materials to be carried. Free and somewhat cheaper coal will also reduce the cost of operation.

Free ore, steel, lumber, hides, leather, paper, coal, lead and glass, and greatly reduced duties on finished goods, would, perhaps, add 10% to the value of railroad stocks—other things being equal.

The foregoing analysis was prepared for me by Mr. Byron W. Holt, Chairman of the Tariff Committee of the Reform Club. In the Congressional Record, Mr. Holt's opinions have been more extensively quoted than those of any other individual not in Congress. In preparing this letter it has been my idea to obtain a competent opinion in which this important matter would be coldly set forth from the point of view of the exponents of tariff reform and then to offer my own views as to the purely speculative phase of the matter. It will be understood that this letter is not offered as a political discussion nor are the merits of the tariff question involved. With me the matter resolves itself into a correct understanding of probable future price movements.

It may appear to many readers that the mere remoteness of the day of possible revision warrants the ignoring of the question temporarily. No more dangerous error could be made. The effect is here to-day. It is reflected in the price of United States Steel common in a most forcible manner. If we revert to my special letter on United States Steel, published February 20, 1908, it will be found from the figures tabulated therein, the stock should be selling far above its present price. Remove absolutely that tariff incubus and it would bound up like a rubber ball. I do not hesitate to estimate the value minus possible tariff revision at double the present figure, and Mr. Holt himself goes above this estimate. The point is that tariff revision in 1909 or 1910 is at least partly discounted in the present price of the common stock. It is idle to point to business conditions in an attempt to controvert this statement, for in the year 1907 the stock never even approximated the price warranted by earnings equal to 15.75% on the junior issues.

It has been stated above that the element of remoteness and its bearing on present prices cannot be ignored, but there are two other factors based on deferred legislative action which should be considered.

Mr. Holt has touched briefly on the effects of increased gold production on commodity prices. This is very important. Commodities have advanced 50% in ten years and will continue to advance as long as gold production increases. There will be fluctuations, of course, but the trend will be upward. The advantageous position of manufacturing corporations own-

ing their own bases of supply will be seen at a glance, and this accretion, together with improved methods, and the fruits of intelligent preparation for a reduced income will go a long way toward offsetting even radical tariff revision.

The second phase of the matter so far as the element of time is concerned is the question of manipulation pure and simple. If a man holds property of any kind which he fears will depreciate enormously in the future, his chief concern is to dispose of it to advantage. If the great holders of the United States Steel securities were convinced that tariff legislation must come and that it would be disastrous, they would find themselves possessed of ample time to build up a market for the stocks. This has been done in numerous instances. If, in 1908, excellent reports and inspired comments appeared in regard to United States Steel, these items would be far more impressive to the general trader than would the possibility of tariff revision. I do not say that this kind of work would be done, but it could be done, and has been done before. If this method was adopted it would mean that the securities involved would be bid up and featured before the crash came. Purchases based on such action would be unwarranted, however. What we want is a fundamental value, not a manipulative one, but the seller of Steel common on the theory of tariff revision might find himself very much embarressed even if his views proved ultimately correct.

It is my opinion that, considering the factors mentioned above, i. e., that possible tariff revision has already depressed the price of certain issues; that the extent of consummation of such legislation is problematical; that the holdings of such concerns as the United States Steel Corporation are rapidly increasing in value and that the machinery of Wall Street would be operated, at least temporarily, on the constructive side, I see no immediate danger confronting the buyer or holder ot such securities. This is a question, however, which warrants careful study.

Mr. Holt's final deduction in regard to railroads is important. The effects of revision, no matter how heavily they may bear on certain industrials, will enhance the value of our railroad as well as of many other securities.

This subject will be further considered in future advices.

INCREASING GOLD SUPPLY AND STOCK PRICES.

By Maurice L. Muhleman, ex-Deputy Assistant Treasurer of the United States.

June 18, 1908.

The enormous increase in the world's production of gold and its influence upon economic conditions, particularly with reference to the future of investments and speculation, have been quite exten-

sively discussed in recent years. It may seem to those who have followed the discussion that the subject has been fully covered; but the factor of reserves, to which I merely referred in my paper included in the "gold symposium" conducted by the editor of Moody's Magazine in December, 1905, has not, in my opinion, received adequate attention.

The function performed by the yellow metal, of furnishing a medium of exchange, important as this is, must be regarded of far less potency in economic influence than the function of serving as a reserve basis for credits, which has been almost universally devolved upon it exclusively. A review of the data bearing upon this point may prove useful in determining the probable course of events. As introductory thereto, the statistics of production and distribution of gold should be presented.

It will be recalled that during the decade from 1878 to 1887 the average annual product was about 105 millions; thus the addition to the monetary stock was practically negligible in amount, after making allowances for industrial consumption, losses and hoarding in the Orient (Egypt, India, China, etc.). It was hence natural that a substantial part of the world's population should turn to silver to supply the growing monetary needs. Inadequate reserves tended to retard development.

In the following decade (1888 to 1897) the average production was 161 millions, the greater part of the increase occurring in the latter half of the period. The movement toward silver ceased; a number of nations adopted the gold standard in place of the silver or bimetallic; and they were enabled to acquire the necessary yellow metal owing to the coincident falling off in ordinary demand due to the slow recovery from the general depression following the financial crisis of 1893.

In the decade closing with last year (1898 to 1907) the average annual output more than doubled, reaching the unprecedented figure of 325 millions; and this notwithstanding the interruption of production in 1899 to 1901, due to the Boer War, which prevented the disemboweling from the earth of probably 200 millions. It is to the economic developments of this decade that attention should be directed; the depression referred to above reached its end in 1897, the period of low ebb in prices and in enterprise.

The available statistics indicate that of the 3,250 millions of gold produced in the decade, approximately 2,300 millions were made available for monetary purposes; 950 millions were diverted to the arts and into hoards. Of the monetary gold thus added 1,100 millions may be assigned to Europe, 850 milions to the United States, 350 millions to the rest of the world. Estimating the world's monetary stock at the end of 1907 at 7,000 millions, the increase has been nearly 49%. Europe's supply increased nearly 37½%, that of the United States about 112%; the rest of the

world gained nearly 46%. Europe and the United States together have over 84% of the total; they have a little less than one-third of the population, but control fully 80% of the import trade of the world.

Our purpose requires the consideration of the manner in which the added gold was used, to facilitate credit and capital supplies to the renascent enterprise of the civilized world, emerging from its semi-paralysis after 1897. It was necessarily made available to industrial and commercial development through bank reserves. The absence of correlative demand for money-means prior to 1898 caused the abnormally low discount rates which prevailed for several years in all the financial centers of the world. When the stimulus of the "renaissance" was felt rates rose, reaching a maximum in 1899-1900, when, owing to the check upon South Africa's production, demands had temporarily outrun supplies. Thereafter rates adjusted themselves generally to a higher level.

It is to be noted here that commodity prices advanced and prices of securities having fixed income values declined, indicating a cheapening of money notwithstanding the higher current rates recorded; upon the other hand, securities having an indeterminate income rate rose materially in the markets, in a certain degree speculatively. This was the general trend, although violent fluctuations took place; and some noteworthy aberrations are observed which are referable to the manner in which the reserve gold was employed.

It is essential to have continuously in mind that money-means include bank-credits, the instrumentality by which liquid capital is provided; the supply of actual money, in the common use of the term, except so far as it relates to reserves, is of subordinate importance; deposits and credit-notes, and the basis upon which they rest, constitute the factors of paramount influence. Of the 1,100 millions of gold gained by the countries of Europe not more than one-half went into reserves; of the great gain recorded for the United States reserves took about 500 millions. The gold which went into general circulation was obviously deprived of its full efficiency.

It is the degree of efficiency with which gold is utilized that tends to regulate the provision of money-means and their cost: the salient elements in financial operations. We are without accurate or complete data whereby they can be measured; yet as regards Europe and the United States we have sufficient to enable us to approximate. From these it is safe to conclude that the gold reserves in Europe are about twice as large in ratio as are those of the United States, and that the expansion of credits in the decade has been very much less, both actually and relatively. The statistics of note issues in Europe are particularly interesting; the increase in the decade has been 800 millions, with an increase of

the gold reserves of 250 millions; the ratio of gold has been maintained at very nearly 50%.

The available data for the United States show an expansion of credits of banks other than savings institutions of over 200%, an increase of gold reserves of only 100%. The ratio of gold held against our credit currency was in 1907 only 21.8%; less than half the ratio in all Europe.

The operations of the systems of the four leading nations in the financial world will throw further and more satisfactory light upon the events. Widely varying in constitution as they are, the inter-action and inter-dependence are nevertheless marked. Great Britain because of the vast aggregation of capital is the chief source of supply; the United States with almost boundless natural resources and energy stands first in the line of demand. British operations are carried on most largely by checks upon bank credits; in the United States this is so in less degree; Germany and France use coin and bank-notes much more extensively. This importance of the reserve is the same whether it stands against check-money or notes.

France conducts her operations through a central bank under Government supervision; it is essentially a currency bank, its deposits (other than public moneys) being less than one-tenth of its note-issues. Respecting reserves the restriction is that the bank must hold sufficient coin so that it shall not fail to pay its notes and deposits on demand; the remaining assets are chiefly short-time commercial paper re-discounted for other banks; it may use large silver coin in payments (the bimetallic law prevails), yet in fact its gold holdings are considerably more than 50% of its demand liabilities. In the past decade the gold increased 160 millions; note-issues less than 200 millions. The margin of expansion is consequently very considerable.

Other French banks carry much larger deposits than the central bank, but with relatively small reserves, and part of these are held in the great bank; the ratio of "cash in hand and in the bank" is probably not in excess of 10%, but with the right to rediscount paper immediately the other banks have the means to restore reserves quickly from the central bank's stock. The mechanism has operated so that the discount rate in Paris was for a period of nearly seven years from 1900 maintained without change at 3%, an inestimable boon to all interests. Such expansion as was necessary having been accompanied by a corresponding growth of gold, the conditions remained stable, until our panic caused disturbance; yet this brought about a rise in discount rates to only 4%.

Germany has also a Government-supervised central bank, chiefly a currency bank; yet its deposits are relatively larger than in the case of the French bank. It may issue additional notes to meet demands subject to a 5% tax, without reference to its reserve. The gold ratio is hence usually lower than in France, 30 to 35%

being the recent average. Here also the other banks, with very extensive deposit accounts, carry much of their reserve in the central institution, having cash on hand only 5 to 6%. The margin of expansion except subject to the tax is narrow; hence discount rates fluctuate very considerably, the record for the period of absolute stability in France referred to, showing a range from 3 to 7%, with 21 changes; the panic pressure of 1907, causing a net loss of 28 millions of gold, brought the rate to 7½%.

The German mechanism in theory provides for automatic expansions and contractions of notes and credits by means of the tax: this doubtless serves to restrain inordinate speculation. Yet it does not obviate a fierce struggle to maintain gold reserves which manifestly operates to tax all business interests. However satisfactory the system may have worked in aiding the development of the Empire, there are evident defects; the supply of gold in actual circulation is much larger than need be, and the strain upon reserves causes undesirable instability.

In England a privately-controlled central bank regulates a system in which numerous powerful institutions are dominant factors. The note-issues, covered partly by coin and partly by bonds, are not large; deposits of the central bank, while ordinarily less than twice the note-issues in amount, are only a fraction of those of the other banks. Yet the latter hold relatively small cash reserves, probably 5%, depending upon the great bank therefor; the bulk of its deposits consists of these reserves; it endeavors to maintain a 40% ratio against these liabilities, but the margin is frequently narrow. Hence discount rates ranged between 2½ and 6% during the seven years from 1900, and reached 7% under the panic pressure of 1907.

Expansion appears in the deposits of the other banks, undeterred by reserve requirements. Thus the liabilities grew in the past decade fully 600 millions for the United Kingdom, yet the entire stock of gold increased only 100 millions, and not all of this accrued to reserves. A struggle for gold manifests itself first in the British center; the mechanism enables its bank to shift demands upon other points, but this is done at largely increased charges for money, taxed upon business.

The effect of the panic upon the three great banks is treated in great detail, showing the changes week by week, in pages 189-197 of my work, "Monetary and Banking Systems," just published.

In the United States the monetary affairs are conducted by about 20,000 individual banks under indifferently effective governmental supervision; they create credits under very lax reserve restrictions, excepting only the few national banks in central reserve cities (New York, Chicago and St. Louis). Those in the chief center undertake regulation in a measure, but the results are not satisfactory. The great mass of the institutions are inadequately provided with cash reserves, because of the permitted inordinate expansion of credits. The greater part of the nominal reserves

is loaned to banks in the centers; much of the cash reserve consists of Government and bank notes; hence the credits are in a large measure supported by credits, instead of by gold. Even this conglomerate cash reserve declined in relation to deposit liabilities from 18.8% to 11.3% in the past decade.

Conditions of demand require the provision of greater supplies of cash as well as credit means, in the latter half of each year; but the practice causes the major part of each year's added supply to continue in use; the excess is concentrated in the center, causing congestion there during the period of slackened demand; when the needs recur the imperative recall of the funds causes stringency; sometimes creating panic. We have thus a record of instability of money-rates not found elsewhere in the world, manifested principally in the rates for "call loans" annually for considerable periods below 2%, and at other periods rising frequently to 100% and more; ordinary loans show fluctuations equally vicious, although not so violent; and rates at interior points, while fluctuating less, are at materially higher figures than they should be, because of the artificially created dearth of means there.

The alternating "feast and famine" in the supply of money means as indicated by the rates are obviously due to the almost unrestrained expansion attributable partly to the wretched currency system, partly to the irrational reserve requirements. The excessive means existing in the first half of each year are employable only in the speculative field; the absurdly low rates incite inordinate speculation; the violent fluctuations in money rates cause violent fluctuations in the security markets; inflation of prices, reactions, periodical crises, scrambles for gold; these conditions are not only pernicious to the security markets, but detrimental to all interests. It is clear that approximately stable money rates are imperatively needed; that changes in our currency and reserve laws would bring this about.

France alone of the four great nations shows a rational observance of the principles of reserves; and there alone money rates are fairly stable; in the United States conditions are by far the worst, the credit-structure being comparable to an inverted pyramid, that topples with very little pushing. Obviously there has been for some time past and is now a need for a broadening of the yellow metal base for credits; most countries of the world require it unless a violent contraction of credits and a suspensoin of development are to take place. Had the world's banking institutions operated under adequate reserve regulations, the increased output of gold would have caused far less disturbance.

There are indications that the question is about to receive serious attention; corrective measures are under discussion here, in London, and in Berlin; if carried out, these will naturally bring about an added demand for gold that will absorb the growing supply for some time to come. This will tend to neutralize, at least in part, the tendency to decline in its purchasing power; but a far greater benefit will accrue to the world through the greater stability

in money rates that more rational gold reserves will bring about, Not only will ordinary business interests reap a distinct advantage, but security markets will be influenced in a much greater degree by value, actual or prospective. Much of the detrimental character of speculation will be eliminated.

Maurice L. Muhleman.

A TALK ABOUT COTTON.

By Miss Katherine M. Giles, Cotton Expert.

June 25, 1908.

It was President Madison who, in 1786, at a convention held in Annapolis, Maryland, to consider a means for the relief of the embarrassment of the country then so much exhausted in its finance, said that the United States would one day become a great cotton producing country.

There is nothing to-day of so great importance to the Southern farmer as his cotton crop. This becomes more apparent with each successive year. During the great "cotton famine" caused by the Civil War the production of cotton in the United States practically ceased, and it was not until 1867-68 that the cotton industry regained the position it had held in 1860. From that period until 1880, when the approximate crop was 6,600,000 bales, there was irregular but decided growth in the industry. In 1881 adverse weather conditions caused a falling off from the previous year of about 1,150,000 bales.

Cotton Acreage.

If all the land in the cotton belt adapted to the growth of the staple, which is estimated at 650,000 square miles or 416,000,000 acres, were under cultivation of the staple, it is difficult to say just how many bales of cotton could be raised. It is quite needless to say that a great movement would be started at small cost by foreign mission societies to cover the nakedness of the people in those countries where but few clothes are worn. This is only one of the great possibilities of an enormous yield.

Out of the above acreage of 416,000,000 acres, only about one acre in every thirteen was given to the cultivation of cotton in 1907. The state of Texas alone has an area of 160,000,000 acres. Of course, it is understood that this land is not all adapted to the growth of cotton. But when considering the present cotton acreage of Texas, which is approximately 9,600,000 acres (thought by some to be too high), the possibilities of this magnificent State, with its large area, superb soil and delightful climate, can be realized.

It is claimed on good authority that this state alone could, with proper cultivation and favorable weather conditions, produce a crop equal to that in size of the crops now grown over the entire belt. The money value of the aggregate crop in the state of Texas in the past year was about $144,000,000.

Among first records of cotton acreage in the United States, issued from the Agricultural Department, are those of 1870, when the land planted to cotton was 8,855,500 acres. Since that time a steady increase in acreage has taken place, and it is believed by many well-informed people on the subject that the cotton acreage of to-day is nearer 35,000,000 acres than 33,000,000 acres. This subject is constantly being discussed and is of vast importance and great interest to anyone connected with the cotton industry. On the acreage to a great extent depends the size of the crop. Should the Agricultural Bureau or anyone connected with cotton statistics make an error in the estimated yield of the crop it most surely could be traced to the acreage. But what power on earth can tell the exact number of acres planted to cotton each year? The Agricultural Bureau at Washington could greatly improve their system of crop reporting, and benefit others in this line, by having the census on cotton acreage taken every few years, instead of as present every ten years. Next year (1909) will be the year for taking the census on the land sown to cotton. It will be interesting to note the wide differences between the actual acreage of 1909 and the estimated acreage at that time by different authorities on the subject.

The following table will give some idea of the increase in acreage since 1870:

Season.	Acreage.	Season.	Acreage.
1870	8,855,500	1892	18,067,900
1871	7,811,600	1893	19,525,000
1872	8,867,600	1894	23,688,000
1873	9,802,800	1895	20,184,400
1878	12,226,800	1896	23,445,300
1879	12,595,500	1897	23,029,000
1880	15,475,300	1898	23,175,000
1881	16,710,700	1899	24,175,000
1882	16,791,600	1900	26,534,000
1883	16,778,000	1901	27,874,000
1884	17,439,600	1902	27,300,000
1885	18,300,900	1903	28,996,000
1886	18,454,600	1904	32,364,000
1887	18,641,100	1905	28,808,000
1888	19,058,600	1906	31,557,000
1889	20,171,900	1907	32,199,700
1890	20,809,000	1908	33,000,000
1891	20,714,900		

Cotton exportation increased from 487,600 pounds in 1793 to 1,600,000 pounds in 1794, the year in which Eli Whitney's

gin was patented. In 1796, a year after he had improved his gin, the yield had risen to 10,100,000 pounds. The increased production seemed so great at that time that the planters were afraid they had overstocked the market, and various planters, after gathering their cotton and putting it in gin-houses, determined to cease the cultivation of the staple and turn their attention to other crops, as there would soon be an overproduction for export and home consumption.

Prior to the invention of the Whitney saw cotton gin great difficulty was experienced in separating the lint from the seed. The work was done by hand, the task being four pounds of lint cotton for each person per week; this was done in addition to the cultivation in the fields. From this it will be seen that it would take much more than a year to separate the lint from the seed of a bale of cotton weighing 450 pounds by hand.

Cotton Production.

We know that cotton was first grown in India and from there introduced into China and Japan, but the use of the fibre met with active opposition. For many years cotton was grown as a garden plant. In the thirteenth century the inhabitants of China began active work in its cultivation, etc.

The United States was the last to enter the list of cotton-producing countries of the world. The first effort to produce cotton on the North American continent was probably made at Jamestown a year or two after the arrival of the Colonists. It has, however, for over a hundred years ranked the foremost of them all. In about one hundred years, from 1790, the production of cotton in the United States increased from 5,000 bales to 10,000,000 bales. Thus the beginning of the culture of cotton in this country occurred about 175 years before the industry became at all important.

The following statement will be of interest, showing as it does, the increased production in cotton since 1790, by bales:

Year.	Crop.	Year.	Crop.
1790.....	5,000	1805.....	347,800
1791.....	7,500	1806.....	285,700
1792.....	22,200	1807.....	271,700
1793.....	35,500	1808.....	366,100
1794.....	35,600	1809.....	340,000
1795.....	44,400	1810.....	269,400
1796.....	48,900	1811.....	304,900
1797.....	66,700	1812.....	300,000
1799.....	155,600	1813.....	284,600
1800.....	210,500	1814.....	303,000
1801.....	241,200	1815.....	457,600
1802.....	252,100	1816.....	461,000
1803.....	240,700	1817.....	448,000
1804.....	281,100	1818.....	596,400

LIBRARY OF THE UNIVERSITY

Year.	Crop.	Year.	Crop.
1819	606,100	1864 (b)	.....
1820	647,500	1865	2,269,300
1821	742,000	1866	2,097,300
1822	620,800	1867	2,519,600
1823	762,400	1868	2,366,500
1824	891,600	1869	3,122,600
1825	1,121,700	1870	4,352,300
1826	957,300	1871	2,974,000
1827	720,600	1872	3,930,500
1828	870,400	1873	4,170,400
1829	976,800	1874	3,833,000
1830	1,938,800	1875	4,632,000
1831	987,500	1876	4,475,000
1832	1,070,400	1877	4,773,900
1833	1,205,400	1878	5,074,200
1834	1,254,000	1879	5,761,300
1835	1,360,700	1880	6,605,800
1836	1,423,900	1881	5,456,000
1837	1,801,900	1882	6,950,000
1838	1,360,500	1883	5,713,200
1839	2,177,800	1884	5,706,200
1840	1,635,000	1885	6,575,000
1841	1,683,600	1886	6,505,000
1842	2,378,900	1887	7,046,000
1843	2,030,000	1888	6,938,300
1844	2,394,500	1889	7,311,000
1845	2,100,500	1890	8,652,600
1846	1,778,700	1891	9,035,400
1847	2,439,800	1892	6,700,400
1848	2,866,900	1893	7,549,800
1849	2,333,700	1894	9,837,000
1850	2,454,000	1895	7,162,000
1851	2,126,300	1896	8,714,000
1852	3,416,200	1897	11,181,000
1853	3,075,000	1898	11,235,000
1854	2,982,000	1899	9,436,000
1855	3,655,600	1900	10,425,000
1856	3,093,700	1901	10,700,000
1857	3,257,300	1902	10,750,000
1858	4,018,900	1903	10,124,000
1859	4,861,300	1904	13,400,000
1860	3,849,500	1905	10,535,000
1861 (a)	4,500,000	1906	12,800,000
1862 (a)	1,600,000	1907	11,375,000
1863 (b)	.....		

(a) Estimated; (b) No data.

Possibilities of Cotton in Africa.

There are about 3,500,000 Africans now raising cotton in Uganda. This country is protected by Great Britain. It is now only two years since the British Cotton Growing Association sent out seed and began its experiment in the growth of the staple.

There are now thousands of small plantations all over Uganda. Cotton is everywhere there, and it grows everywhere well. This with almost no cultivation. The amount of seed first used was about 1,000 pounds. The product from the last year was almost 2,000 pounds, and the output of the current year will be about 5,000,000 pounds of seed cotton. This cotton comes from cultivated patches set out by natives and worked by them almost without instruction from those who are in command of the movement. The natives bring the cotton in bags on their heads from the fields, which in many cases are miles away from the warehouses where it is stored preparatory to ginning.

It is reported that the cotton in this section of Africa grown from the seed of American cotton is as good as any upland we produce. As mentioned above, the cotton is brought in on the heads of the natives. It is put up in banana bark and bound with banana fibres so that it cannot fall out while being carried. Each bale weighs about 65 pounds. When the cotton arrives at the warehouses the planter is paid in rupees or in strings of cowry shells—equal in value to two cents of our money. This small sum of two cents per pound constitutes the reward for planting, cultivating, picking, and last, but by no means least, carrying for many miles this heavy weight on the head to the warehouses.

The pay is considered so small, even among the natives, who work for sums as low as four cents per day, that it is thought that the price for raising the staple will have to be advanced or but litttle more will be planted. There is an impression that the chiefs are getting a substantial commission from the Uganda Company and that the natives are compelled to devote a certain section of their land and much of their time to the culture of cotton.

Values.

Cotton is the money crop of the South. Europe pays enormous amounts to the South for her staple each year. About two-thirds of the yield is sent abroad.

The following table shows the aggregate value of the cotton crops for the past six years:

1902.....	$501,900,000	1905.....	$632,300,000
1903.....	660,500,000	1906.....	721,000,000
1904.....	652,000,000	1907.....	700,956,000

The Present Outlook.

Prospects up to and including June 12 were generally favorable to the growing crop. The outlook was flattering at that time with an average condition of 83.9%, compared with 68.7% last year. The area seeded to cotton this year was approximately 33,000,000 acres, or 2.9% increase over last year. Rains and floods in Oklahoma, portions of Texas and Arkansas resulted in some damage, but with three or four weeks of favorable weather conditions and intense cultivation will soon put the crop in good shape.

A strenuous effort was made during the latter part of the winter and in the early spring to have farmers reduce their acreage. After repeated meetings throughout the South of different societies formed for the protection of farmers throughout the cotton-producing states many farmers decided to reduce acreage, while others knowing their neighbor would reduce, went home with the idea of planting a larger acreage.

This calls to mind the story of two farmers, Cyrus on his side of the fence, and Hiram on the other—each with a bag standing by his side labeled in large black letters, "Cotton Seed." Hiram said, "Si, what ye plantin'?" "Taters," said Si. "What you plantin', Hiram?" "Taters," said Hiram.

Katherine M. Giles.

THE IMPORTANCE OF FIXED CHARGES.

By Carl Snyder, author of "American Railways as Investments."

July 14, 1908.

It has always seemed to the writer that the average investor, even among those who account themselves well versed in such matters, pays singularly little attention to the really essential points in the reports of the companies in which they are interested. In the matter of railways, especially, one will hear persons speak wisely of a road "selling at so much per mile," or that it is bonded as so much per mile, and as a rule they will regard these figures as low or high from the mere size of the figures, with slight regard to the earnings, and more especially to the amount of earnings left over after all charges were paid.

For all practical purposes the usual elaborate figures of a report are superfluous, and the amount of capitalization, bonded debt, etc., either in toto or per mile, a matter of hardly more than academic interest.

All that is really essential is a few very simple percentages. I know a railway president, for example—and he is among the most expert auditors and railway accountants in the United States—who says that there is practically one figure in the very elaborate

(and illuminative) reports as to his road which are made up for him from month to month, to which he pays very close attention, and that is the percentage of gross consumed in running trains, what is known technically as the cost of conducting transportation. In much the same way, practically, the important figure which investors should know is the percentage of fixed charges on total net income, that is to say, the percentage of profit over operating expenses, required by taxes, interest and other "fixed" items.

Importance to the Bond Buyer.

This percentage is of especial importance to the investor in bonds, and I think of paramount importance; yet I have seen no end of reports on properties intended for the purchaser's interest, in which this item was never mentioned. There were the usual elaborate figures about the bonded debt per mile, the earnings, the importance of the particular piece of track covered by the mortgage, etc.—never a simple table showing the percentage of charges for each of the three or four latest years.

It is A, B, C that the bond buyer does not want trouble. He is a foolish man who invests in prospective receiverships, lawsuits, and the like. It is infinitely safer, and with due judgment far more profitable, to invest in good railway stocks than in the bonds of more or less insolvent corporations. In the one case it is possible to calculate, nowadays, to a very high degree of nicety, the actual value of a railway stock, and therefore when the price is on the right side, that is to say, palpably below value, to make a profitable investment. It is impossible to calculate the value of the bond of any company which is to go into the hands of a receiver. This introduces a wholly unknown and personal equation, and the man who invests in such "bonds" is gambling, and that is all.

Let us take a specific instance: The so-called collateral 4 per cent. bonds of the Chicago, Rock Island and Pacific Railroad Company cover a deposit of an equal amount of the stock of the old railway company of the same name. They are selling now in the market for around $60 per $100. The stock of the old Rock Island Railway Company, underlying these "bonds," is worth well over par, comparative to other roads in the same section and with about the same earnings. Why the heavy discount? It cannot be because of the rate of interest merely. It is because shrewd investors know that in the case of a receivership or reorganization of the new "Rock Island Company," they do not know they would certainly get the stock which is security for the mortgage. It is much more likely that they would receive preferred stock in some new company which might be of equivalent value and might not.

One may calculate very closely what the Rock Island stock is worth, but it is impossible to anticipate what would happen under a receivership.

This, it seems to me, is the clearest sort of reason why the investor, whose first thought is security of principal and payment

of a moderate rate of interest, should not invest in risky bonds. Good stocks are far better.

Bearing this in mind, the first item the bond buyer requires should be, then, the average percentage of total net income, over a series of three or four years, required for interest payments. One year is not sufficient, for a simple reason. For example: This year the Erie road was driven to the prospect of a receivership and many investors frightened into selling, by the fact that the Erie road charged up, especially after the panic, about 50 per cent. more than usual for maintenance. This amounted to nearly 10 per cent. on the gross earnings and wiped out about one-third of the usual proportion shown by the Erie's net earnings. There was no demoralization of management. The cost of conducting transportation (in percentages) remained the same, which, considering the advance in wages, and heavy loss in business in later months, showed an excellent state of discipline.

It may have been that this extra maintenance was badly needed by the Erie, but it was manifestly unfair and outside all business ethics that this charge should have been put upon the road in a single year, and that following a nasty panic, and when the road was needing just about the amount of cash represented by this extra expenditure to meet notes falling due last April.

Nor would it do always to take even the showing for a series of years at its face value. For example, the Burlington has for years—practically ever since the advent of the Hill management—been charging enormous improvements to operating expenses. The effect, of course, has been to reduce the actual net earnings of the road very heavily, and put its "operating ratio" at a high figure.

But with this reservation, and unless it can clearly be shown that the maintenance account is being stuffed, no investor desirous of safety will put his money into a road whose percentage of fixed charges, in highly prosperous years, such as we had up to the panic, runs much over 75 per cent., or perhaps 70 per cent. In the last six or eight months we have seen gross earnings fall off on the average from 20 to 25 per cent., and in the case of even some highly prosperous and finely managed roads as high as 50 per cent. There are some people, by the way, who will assure you that the present depression is "nothing like '93." The figures do not bear them out.

It is almost impossible, except where a road has been very highly maintained, to cut down expenses in anything like the same proportion. The result is that net earnings have fallen very much more heavily than gross. In some exceptional instances where there was obviously plenty of "fat" to draw on, the operating expenses could be reduced without injury to the road.

Of the roads which have gone into the hands of a receiver in the past year, it will be found without exception that their fixed

charges have run very much over the limit figure here given, of 75 per cent. And going back to '93, when about one-third of the railway mileage in the country found its way into the hands of receivers before the depression was over, it will be found that identically the same thing was true. For example: the Union Pacific for three years prior to its receivership earned little or nothing over its fixed charges, and the same was true of the Northern Pacific and many other roads. It is interesting to note that the percentage of fixed charges for these same roads now runs from 25 to 35 per cent., and there is infinitely less danger of receivership for them now than for many older and better established roads, whose stocks and bonds still sell at fancy figures.

Importance to the Investors in Stocks.

It is obvious that this same percentage is of equal interest—perhaps of even more—to the buyer of stocks; and as the writer has never seen the matter clearly set forth, it may be well to state it in detail.

The railroads of the United States, taken as a whole, are run on a very narrow margin of profit. On the average, they save about 30 per cent. of gross earnings after all charges. The cost of construction is high and the return is low. Even at the most conservative—or even radical—estimate of the actual cost, the net earnings of the roads of the United States, taken as a whole, do not run over 6 or 7 per cent. per year. This is about half the average earnings of capital invested in other industrial enterprises, and not one-third, for example, of the actual earnings of the Steel Corporation.

Now, if 75 per cent., or more, of this balance of income is consumed in fixed charges—bond interest and taxes—it is obvious that only about 7½ per cent., on the average, of gross earnings remains for distribution in dividends and for improvements. Reduce gross earnings 25 per cent. and even when expenses are cut to the bone, the surplus for dividends will be entirely wiped out.

But suppose that only 25 per cent. of the balance is required for fixed charges, as in the case of the Union Pacific, the Northern Pacific and some other well organized roads, now, it is obvious that the surplus may be very considerably reduced without impairing the dividend fund in a corresponding degree.

There is here a point of especial interest, and one that shrewd investors may note, with profit. It is that where earnings are increasing and business good, the amount of surplus remaining for stock will advance much more rapidly in the case of a road with a high percentage of fixed charges than in a road with a low percentage. When business is on the up trend, stocks on roads with a high percentage are an attractive purchase. On the other hand, with business falling, the reverse is true, and a comparatively good showing, where the percentage of fixed charges is high, may be very quickly turned into a bad showing. This has been evidenced

in so many cases within the last year that it ought to be palpable to the most superficial observer, and yet the writer has never seen this matter even discussed.

In my "American Railways as Investments" I gave a table of fixed charges,* in order that the investor might see at a glance the relative position and safety of the stocks and bonds of the more important roads. It was the intention to extend this table in a new edition, and make the showing for the four latest years. Mr. Floyd W. Mundy, in his very valuable little compendium, "The Earning Power of Railroads," which I believe is to be had on application to James H. Oliphant & Company, has given practically the same sort of figures, by showing the percentage of gross income consumed by fixed charges. Personally, I think that the percentage of net income is much clearer and more vivid, but Mr. Mundy's figures answer the purpose. A similar compilation for the last fiscal year available is now being given by the "Railway World." But it is well to note that the face value of the figures as they are given in the railway reports, is not always trustworthy, and should be checked by a similar table of the percentages of gross earnings consumed by maintenance. If this figure is low, it is well to inquire carefully why.

On the average, few roads can be maintained properly for less than 25 per cent. of gross earnings, and it is quite certain that the showing of net earnings, and consequently the percentage of net for fixed charges, is of much solider worth if the percentage of maintenance for a series of years averages nearer 30 per cent.; though here, as always, there are exceptions, as when in the case of the Union Pacific, the Northern Pacific, the Great Northern, and some other roads, the rates charged are very high and the percentage of operating expenses correspondingly low.

Carl Snyder.

***Table of Fixed Charges.**

Atch., Top. & Santa Fe...	42%	Lake Shore & Mich. So...	38%
Atlantic Coast Line.....	57	Louisville & Nashville.....	54
Baltimore & Ohio.....	39	Michigan Central	46
Boston & Maine	78	Michigan Central	57
Canadian Pacific	33	Minn. & St. Louis.....	77
Central of Georgia.....	47	M., St. P. & S. Ste. M....	44
Central R. R. of N. J....	50	M., K. & T.....	75
Chesapeake & Ohio.....	53	Missouri Pacific	60
Chicago & Alton.....	73	N. Y. C. & Hud. River....	64
Chic. & Eastern Illinois..	68	N. Y., Chic. & St. L.....	41
Chicago & Northwestern.	39	N. Y., N. H. & Hartford..	48
Chic., Burl. & Quincy....	45	Norfolk & Western.....	37
Chicago Great Western..	67	N. Y., Ont. & Western....	53
Chic., Mil. & St. Paul...	32	Northern Central	28
C., St. P., Minn. & Omaha.	42	Northern Pacific	29
C., C., C. & St. Louis....	69	Pennsylvania	38

Colo. & Southern	55	Pittsburg & Lake Erie	11
Delaware & Hudson	40	Pitts., C., C. & St. L.	54
Del., Lack. & Western	38	Reading	45
Denver & Rio Grande	52	Rock Island	83
Detroit, Tol. & Ironton	87	Rutland	69
Dul., So. Shore & Atl.	115	St. L. & San Fran.	82
Erie	66	St. L. & Southwestern	76
Grand Rapids & Indiana	76	Seaboard Air Line	78
Grand Trunk	65	So. Pacific	49
Great Northern	26	Southern	69
Hocking Valley	31	Texas & Pacific	40
Illinois Central	47	T., St. L. & Southwestern	61
Iowa Central	79	Union Pacific	31
Kansas City Southern	54	Vandalia	54
Lake Erie & Western	69	Wabash	80
Lehigh Valley	46	Wheeling & Lake Erie	90
Long Island	101	Wisconsin Central	69

THE BALANCE OF TRADE.

By Charles A. Conant, ex-Treasurer of Morton Trust Co.; author of "A History of Modern Banks of Issue;" "Principles of Money and Banking;" "Wall Street and the Country," etc., etc.

July 21, 1908.

The first principle to be grasped in dealing with the intricate subject, "the balance of trade," is that the excess of exports or imports of merchandise tells nothing. There may be an excess of imports under circumstances which are radically different and in nations radically different in wealth and financial resources. Even when the movement of the precious metals is added to that of merchandise, the story of the real balance of transactions is not much more nearly complete. If the figures of the movement of merchandise and precious metals were our sole guide, then Great Britain would have long since been ruined by an excess of imports far beyond her exports, while, more inexplicably still, some of the poorest countries would stand by her side in importing more than they exported. It is necessary, therefore, to take into account not only the many other elements which go to make up the real balance, but to take into account also the varying conditions under which such balances are created.

It is not proposed in this article to discuss in detail the influences which affect the balance of trade and the movement of foreign exchange, nor is it proposed to undertake to reduce to mathematics the balance between the United States and any other country or all other countries, because many of the elements of the

problem are elusive or concealed. What is proposed is to lay emphasis upon the importance of the concealed items which do not appear in the statistics of imports and exports, but which have become more potent in recent years in determining the ups and downs of exchange and the movement of the precious metals than the movement of merchandise itself.

The principal items which are usually considered as affecting the balance of trade are the movement of merchandise; the movement of gold and silver; interest paid on loans of foreign capital; payments for freight; and expenditures by travelers. The large excess of imports into Great Britain is due in considerable proportion to the payment of interest on British capital which has been invested abroad. The large excess of exports from the United States is due partly to the fact that her industries are still paying interest on foreign capital invested in the country; partly to the fact that large freight payments are made to British vessels; and partly to the considerable amounts spent by American travelers in Europe.

Fundamentally, of course, there must be a balance of obligations. Ultimately, a nation which pays its debts must deliver merchandise or services to its creditors, but those services may be intangible in character, and the payment may be remote in time. Such services may include freight and passenger transportation by ocean carriers, hotel accommodations, cab fares, and personal attendance to members of the creditor nation on the soil of the debtor nation, or expert aid in promoting and supervising great enterprises. More important in nullifying conclusions to be drawn from statistics of imports and exports, is the factor of time of payment. The individual debtor may not be able to postpone the payment of his obligations beyond a few months or a year, but under the complex mechanism of modern finance nations and corporations may postpone the payment of indebtedness for a period of years, a generation, or even for several generations.

In this ability to postpone payment is found the explanation of the rapidity with which colonization has proceeded in countries like the Dakotas and South Africa, which have bloomed into the full flower of civilization within the knowledge of the generation now living. In the olden days, when our forefathers landed at Plymouth Rock or New Amsterdam, this method of meeting the needs of the present by anticipating the earnings of the future had attained scanty development. Such saved capital as was applied to the development of the new countries consisted of the farm tools and building materials which the colonists brought with them, supplemented perhaps by money advanced by a few rich individuals or borrowed under special arrangements. A few joint companies were formed, like the Levant Company or the East India Company, under the impulse to put at the command of adventurous pioneers in trade the savings of men of capital and foresight.* But

* See "Evolution of Negotiable Securities" in the writer's "Principles of Money and Banking," II., p. 305.

it remained substantially for the last century and almost for our own generation to develop the bonds and shares of the stock company as a means of applying the savings of many thousands of people to concentrated production or construction.

The first use of these savings was in the construction of railways. If "necessity is the mother of invention," the railways were the prolific mother of modern joint stock enterprises. But the organization of the stock company from being national in its scope soon became international. When Great Britain from her own capital had supplied her need for railways, steamship lines, cotton mills, woolen mills and iron mills at home, and saved capital continued to pile up in the hands of manufacturers and railway kings, she was necessarily driven to other fields to find uses for it. These uses she found in the new countries of the west, all too needy and all too greedy of the means of developing their latent natural resources. When this field was partially supplied, the Orient was opened, with its enormous possibilities and its hundreds of millions of people lacking the essentials of modern civilization.

Hence it has come that these countries, which under the methods of two centuries ago would have required scores of years, and even centuries, for their development, have been able, through the system of joint stock companies, to tap the resources of the western world. They do this by issuing securities which are sold on European markets. The proceeds, which consist of European savings, are applied to payment for the goods bought, and thus the goods are delivered to the buying nation without requiring any shipment in return except of engraved promises to pay. The form of these promises is in national or corporate bonds running for thirty, fifty, or even one hundred years, and in stocks in companies dowered with perpetual life. Through the issue of these securities, it is possible for a relatively poor country, like Japan, to show for many years an excess of imports without denuding herself of gold or confessing bankruptcy. Instead of delivering up her own products in return for those which she receives, she is able to command the varied products of the manufacturers of the west by handing them engraved promises to pay at some future date, fixed but remote.

How important has become the part which securities play in the world's commerce is indicated by a few figures. The total volume of securities outstanding in the world about the year 1905 was estimated at $111,000,000,000. Within the past few years the increase has been at the rate of more than $3,000,000,000 per year. British investments abroad are estimated at nearly $10,000,000,000, upon which interest at three per cent. would be $300,000,000 annually, and, in connection with the earnings of British shipping, would largely account for the great excess of imports of merchandise into Great Britain.† The recent tendency to the conversion of

† See the author's "History of Modern Banks of Issue," pp. 556-558.

industrial enterprises into joint stock corporations of sufficient magnitude to give their securities a standing in international markets, has multiplied securities even more rapidly than actual physical wealth has multiplied. According to the computation which was presented by the present writer in the Atlantic Monthly of January last, the par value of securities outstanding in the United States in 1905 was $34,514,351,382, or nearly one-third of total wealth of $107,104,211,917. Of these railway, street railway, and government obligations made up about $19,000,000,000, and other types, including banks, manufacturing corporations, telegraph and telephone companies, gas and electric plants, insurance companies and distributing companies, made up the remainder.

Through the mechanism thus described the balance of trade is often adjusted by the delivery of evidences of debt instead of goods. It is in form a long-term debt and its influence upon trade balances could be traced if we had exact statistics of the distribution of important loans. But unfortunately for statistical purposes, this distribution is constantly changing. While a bond is a long-term debt in form, it may be converted into a short-term debt in the hands of the holder through the facilities of the international money market. If the price is higher in the issuing country than elsewhere, as is often the case, then it will tend to drift back there. This has been the actual experience in recent years of the public debts of the United States, Italy and Spain.

But these securities are not the only form of obligation which shift quickly from one market to another. Credits for large amounts are opened in favor of American bankers all over Europe —preëminently in London, Paris and Berlin. Goods may be bought and paid for out of drafts upon these credits without even a document passing the frontier, except a telegraphic transfer or a bill of exchange. Or the process may be reversed and such credits canceled, when goods must be rushed across the ocean to pay outstanding debts in kind.

These sudden movements reveal the fact that there is a real or normal balance of trade between two countries. In the long run no country buys more than it can pay for in either goods, securities or credits, except in those rare cases where the securities are repudiated and the penalty is paid during long years of distress, in which foreign capital stands sulkily aloof. While it is impossible to determine mathematically at any given moment what the balance of trade may be, it is always possible to calculate with some approach to accuracy what the effect will be of a disturbance of equilibrium. If there are sudden demands upon a country for war purposes, she must borrow abroad in order to avoid too heavy a drain upon her own resources. This both Russia and Japan did in their recent war, taking the proceeds of loans largely in merchandise instead of gold. Even if the money was spent on supplies at home, the foreign money borrowed permitted capital to be kept at home, which might otherwise have been sent abroad by merchants and consumers to pay for imported

goods. Every Japanese bond sold in London made possible a larger adverse merchandise balance against Japan, but afforded a means of concentrating upon the work of the war a corresponding amount of the national resources.

In attempting to strike a balance, it is important to consider also roundabout methods of settlement, such as give rise to what is called in foreign exchange, "the triangular movement" or "indirect exchange." Such a condition comes about when the United States draws supplies of capital in the form of products for consumption or manufacture from tropical countries, looking to London, where such settlements are usually made, to furnish the immediate cash to pay for them. America in such a case obtains the cash of British investors by the sale of new issues of American securities, and employs the proceeds in paying for rubber, sugar or coffee from the producing countries. But even this debt to the producing countries is not settled in cash, but by the shipment of English goods to those tropical countries which produce food products and raw materials for American and European consumption. If Brazil sells a coffee crop at a good price, her coffee growers import not only more mill machinery, but more largely of European gowns for their wives, French furnishings for their houses, and champagne and other luxuries for their daily consumption. Hence, to understand the real balance of trade, or even the merchandise fragment of it, it is necessary to consider not merely the direct exchanges between two countries but the whole body of trade with all countries.

Out of this complexity of movement of merchandise, of securities and of money, arises a mechanism of exchange of the utmost delicacy, which tends to respond as promptly to a change in trade or financial conditions, as the barometer responds to the pressure of the atmosphere. While it has become difficult and practically impossible to put into mathematical form the balance of trade in any proper sense between two countries, because we do not know the movement of securities nor the drafts upon bankers' credits, yet upon the sensitive instruments which record the changes in this balance it is possible to note the readings caused by any sudden disturbance of ordinary conditions. The chief of these instruments are the rate of foreign exchange and the rate of discount. The very fact that an exceptional event, like the failure of a crop, the issue of a large loan, or the outbreak of war, is reflected quickly by changes in the money market is evidence that there is a normal balance of trade which has grown out of the relations between different markets, and which requires readjustment, when by these special events the level is disturbed. The fact that there is perturbation in the exchanges is evidence that the normal balance has been disturbed; and, per contra, any exceptional movement of merchandise or money may be confidently counted upon to produce such perturbation.

The influence of a crop failure upon trade balances has been illustrated by the recent experience of British India. The British

government has been maintaining in India a currency of about $600,000,000 in silver by means of an exchange fund in London. The system gave to India the benefits of the gold standard without the cost of issuing a large loan for investment in a gold currency, which would have been ill-adapted to the needs of the country. From 1898 to last autumn the system worked without a jar, because the exports of India were adequate to meet her obligations abroad. So prosperous, indeed, was the country that the merchants of India made large contracts for European goods, and these goods were being shipped at the time of the panic of last autumn. That panic caused a demand upon the gold resources of India, represented by the exchange funds in London. It was a demand which for the moment was easily met, but which became much more serious when, in the spring, the crops in India failed and the crisis became local. Indian obligations in London for large amounts had to be met without corresponding credits against Indian products exported. The result was that the government found heavy demands made upon its exchange funds and was compelled to part with about $10,000,000 in gold and $10,000,000 in securities during March and April to meet the situation. As the amount of gold and securities held was nearly $100,000,000, the pressure upon the reserve demonstrated the soundness of the system and vindicated the judgment of those who believe that the gold exchange standard is the proper monetary system for Oriental countries. Even if the pressure had been much more intense, it could have been met by the issue of an Indian loan in London, whose proceeds would have been applied to balance the adverse exchanges.

The flotation of a large loan is usually preceded by the accumulation of cash in the banks in order to meet drafts by intending purchasers of the loan and to prevent the exhaustion of reserves by such demands. If the loan is to be offered in several markets, preparations for its issue are usually international in character. Many securities sold in Europe are classified as international loans, because they find a market on several exchanges. They may be international for reasons almost diametrically opposite—because they are issued by governments or institutions whose reputation is a guarantee of their soundness, like English Consols, French Rentes or the obligations of the imperial German or Russian governments; or, on the other hand, they may be securities issued by states which have insufficient capital to absorb them at home, but rely for their distribution upon the co-operation of international bankers, like the loans issued for Greece, Turkey and Egypt, whose interest is guaranteed or collected by representatives of the powers.

The effect of war is usually felt in a contraction of credit and the reduction of speculative commitments on securities, especially those of the belligerent parties. Hence, there usually follows a decline in security prices and sometimes a miniature panic. When the United States went to war with Spain, the

effect was felt in New York chiefly in greater conservatism on the part of the banks; but in Paris and Madrid it was marked by a sharp fall in all classes of Spanish securities, including those of Cuba and the Philippines, which reacted upon the entire market. When the Japanese attacked the Russians in 1904, security prices declined sharply in Berlin and Paris, and at the latter point there was a crash which threatened for a day or two to attain the dimensions of a panic. A modern war means the destruction of great quantities of capital for military supplies. The means for obtaining these supplies is obtained by loans which are floated by the contending parties, so that entirely apart from the uneasiness which war causes, an important part is played by the displacement of capital. Even in England, with her great resources, this influence was strongly felt when millions of government issues came in competition with railway and company issues in the war with the Boers from 1898 to 1902, and the oversupply of Consols forced down their price from around 112 to 85¼.

The effect of introducing securities and bankers' credits into the international money market is apparently to complicate the problem of the exchanges and to create a special market more sensitive than that for goods; but its effect in reality is to mitigate the severity of price movements of goods by affording other means of transferring capital, which tempers the shock of sudden changes in demand for it. How it operates in the same way to diminish the movements of gold I have pointed out elsewhere thus:*

"In a market where the precious metals move freely, it is obvious that the greater the number of cases in which bankers are able to intervene in the market by the sale and purchase of bills, the smaller will be the number of cases in which gold will have to be exported or imported. The offerings of bills arising exclusively from commercial transactions and payable on sight would simply economize cross-shipments of money, but would require that actual net differences between the amounts due between different countries should be settled in gold. Such differences could not be considerable without reacting sharply upon the rates for the rental of money, and this reaction would in turn influence prices and the cost of production of goods and would eventually check imports of goods and stimulate exports. The introduction of bankers' bills and securities into the market contributes a modifying influence which prevents a sudden and unnecessary operation of these tendencies. If the balance of payments is only temporary, a considerable indebtedness may be allowed to stand unsettled by either commodities or gold until the balance shifts to the other side. This is coming more and more to be the case where there is a large export of national products at one season and large imports of foreign goods at other seasons."

Charles A. Conant.

* "The Principles of Money and Banking," I., p. 241.

REVIEW OF THE WORLD'S GOLD SUPPLY.

By Arthur Selwyn-Brown, E. M.; M. A.; B. Sc.; Consulting Mining Engineer.

July 28, 1908.

Mankind has been interested in gold and gold mining since the dawn of history. Man had scarcely emerged from the Neolithic, or Stone Age, before being attracted to gold. With his remains, found in various parts of Europe in caves and earth mounds, crude gold ornaments are not infrequently discovered. By charting on paper the various sites on which such gold ornaments have been found and noting the other articles found accompanying them, it is possible to locate the primitive gold-mining centers of Europe, and learn the extent and nature of the barter carried on between the tribes dwelling near the gold areas and tribes living at remote places. Thus we learn of the introduction of gold into commercial transactions.

The earliest written accounts of gold are in the Vedas of Brahmins of India which were composed about 5000 B. C.

The Egyptians and Phoenicians coined gold, and the Romans learned by experience the economic changes induced by the abundance or scarcity of gold when that metal plays an important part in a national currency. The history of no other metal possesses more human interest than that of gold. Throughout the ages what terrible tragedies have been enacted in the world's remote corners in the exploiting of new gold fields! What ghastly crimes have been committed through the lust for gold! It was the greed for gold that spurred the Spanish Conquistadores to their wonderful deeds in developing Mexico and South America. It was the same incentive that led to the development of California and the West.

When the tremendous influence gold has exerted on society, is still exerting on society, and is destined to exert in even more numerous ways than hitherto, is appreciated, it is not surprising that some thinkers are moved to believe in an early exhaustion of the world's sources of supply. Scarcity of gold scares have been raised at various intervals since the earliest times. They have not been uncommon in recent years, and lately there has been a tendency in some quarters to unduly emphazise the imminent dangers threatened by an overproduction of gold. It is proposed in this article to cursorily review the gold production of the past and present, and to indicate the probable course of production in the near future.

Early Gold Supplies.

The world's gold supplies from the earliest times down to the discovery of America were intimately connected with the cheapness of human life. Gold mining was carried on by slave labor. The value of gold, consequently, varied with the condition

of the slave markets. It became abundant when slaves were numerous. The Roman historians tell us of the great wealth in gold of great historical characters; but it should be remembered that the quantity of gold possessed by the peoples of ancient times was insignificant when compared with the stocks of gold in the world to-day. But the value of gold in ancient times was much greater than it is to-day. The high ratio of values to quantity appears to have fluctuated only within comparatively narrow limits down to the beginning of the sixteenth century. It is estimated that the stocks of gold in Europe at the time of the discovery of America did not exceed $225,000,000. Asia possessed gold valued at $1,500,000,000 in 1492-1500.

The Spanish Conquistadores flooded Europe with gold taken from the Peruvians and Aztecs. The world's gold producing industries passed to Anglo-Saxon hands when Spain withdrew from America. Since that time, it may be said that the gold production has increased proportionately to the demand for it; or, in other words, it has increased, comparatively speaking, with the populations of the great commercial nations. The sphere of its usefulness has also been greatly extended.

Gold Production in Recent Times.

As gold is the standard of value of the principal nations to-day, its abundance or scarcity is of vital importance. The stability of the world's money depends upon the augmentation of the gold supply in proportion to the commercial demand for the metal. A scarcity of gold or too great an abundance would seriously interfere with the welfare of a large part of the human race. Few statistics, consequently, are more valuable and afford more interesting studies than those recording the accumulation, annual production and circulation of gold.

In Table I the production of gold from the discovery of America to the end of 1907 is given. The first three lines give the aggregate yearly production for periods of 28, 24 and 16 years respectively. For the period 1561-1800 the value of the gold mined is given for interals embracing 20 years. From 1801 to 1850 the figures are for 10-year periods. From 1851 to 1880 the annual production is given. These figures were prepared chiefly by Dr. A. Soetbeer. From 1881 to the end of 1907 the figures are taken from the "Mineral Industry."

Table I.—Production of Gold from the Discovery of America to 1850.

Period.	Value.	No. Years.
1493-1520	$107,836,848	28
1521-1544	114,102,912	24
1545-1560	87,305,536	16
1561-1580	90,835,080	20

Period.	Value.	No. Years.
1581-1600	$96,870,400	20
1601-1620	113,149,960	20
1621-1640	110,227,320	20
1641-1660	116,467,680	20
1661-1680	122,974,600	20
1681-1700	142,961,844	20
1701-1720	167,875,680	20
1721-1740	253,389,080	20
1741-1760	326,831,120	20
1761-1780	275,970,920	20
1781-1800	236,257,840	20
1801-1810	118,048,000	10
1811-1820	75,998,160	10
1821-1830	94,397,940	10
1831-1840	135,722,280	10
1841-1850	363,609,260	10

Table II.—Gold Production 1851-1907.

1851	$67,600,000	1880	$106,600,000
1852	132,800,000	1881	103,102,000
1853	155,500,000	1882	102,000,000
1854	127,500,000	1883	95,400,000
1855	135,100,000	1884	101,700,000
1856	147,600,000	1885	108,400,000
1857	133,300,000	1886	106,000,000
1858	124,700,000	1887	105,775,000
1859	124,900,000	1888	110,197,000
1860	119,300,000	1889	123,489,000
1861	113,800,000	1890	118,848,700
1862	107,800,000	1891	130,650,000
1863	107,000,000	1892	146,292,600
1864	113,000,000	1893	158,437,551
1865	120,000,000	1894	182,509,283
1866	121,000,000	1895	198,995,741
1867	104,000,000	1896	211,242,081
1868	109,700,000	1897	237,833,904
1869	106,200,000	1898	287,327,033
1870	106,900,000	1899	311,505,947
1871	107,000,000	1900	258,829,703
1872	99,600,000	1901	260,877,429
1873	96,200,000	1902	298,812,493
1874	90,800,000	1903	329,475,401
1875	97,500,000	1904	350,088,253
1876	103,700,000	1905	379,635,413
1877	114,000,000	1906	405,060,249
1878	119,000,000	1907	412,622,136
1879	109,000,000		

It will be noticed that the average annual production in the period 1493-1520 was a little over $3,800,000. There was then a steady increase right through to the present time.

In studying the figures it is well to bear in mind that the amount of gold produced in any given period largely depends: (1) On the amount of capital invested in mining; (2) the richness of the developed mines at that period; (3) on the comparative profits derived from gold production. Periods of extraordinary production may be noticed in several parts of the tables here given. In each case they may be explained by the activity of miners in developing newly found alluvial gold fields or the mining of a great bonanza at one or more of the leading producing centers. The large expansion between 1601 and 1810 was mainly due to operations in South America and Mexico. The increase shown between 1841 and 1850 was caused by the working of the California placers. About 1889 the results of the development of the Indian, South African and certain Australian and American mining fields commenced to increase the gold production. A progressive increase is thence noticeable right up to the present time.

With the view of indicating the relative importance of the principal gold mining countries in adding to the world's gold supplies, Table III has been compiled.

Table III.—Gold Production of Leading Countries in Modern Times.

United States	1792-1907	$3,044,426,511
Australasia	1851-1907	2,697,324,556
Russia and Siberia...	1814-1907	1,483,725,685
Africa	1887-1907	997,413,738
Colombia	1537-1907	899,710,000
Brazil	1691-1907	726,424,326
Mexico	1521-1907	341,620,350
Canada	1858-1907	257,672,488
Peru	1533-1907	200,041,395
Bolivia	1545-1907	199,658,000
British India	1884-1907	137,004,359
Austro-Hungary	1493-1907	75,226,680
Chile	1545-1907	34,601,000
Total		$11,094,849,088

Table III. gives the gold production of those countries where reliable mining statistics have been kept since 1493. It will be noted that in modern times the United States has produced the greatest quantity of gold. Australasia follows close with the enormous production since 1851 of $2,697,324,556 worth of gold.

The importance of Russia as a producer of gold is not generally recognized. It will be seen by Table III that Russia has

produced since 1814 nearly half as much gold as the United States has produced since 1792. The positions of Colombia, Brazil, Peru and Bolivia should arrest attention. Mining is carried on in those countries at present under severe restrictions owing to the dearth of labor and supplies, lack of capital and enterprise. Their past production of gold, however, should, in a measure, indicate their value as future sources of gold when the demand for gold and industrial conditions warrant the thorough exploitation of their gold deposits.

Gold Production Today.

The gold production of the continents is given in Table IV for the years 1903-7. It will be noticed that there is a steady total increase each year.

Table IV.—The Gold Production—1903-7.

	1903.	1904.	1905.
North America	$105,106,409	$111,192,642	$118,176,774
Africa	68,036,433	86,249,936	113,226,971
Australasia	89,206,739	87,241,662	85,970,779
Europe	29,132,342	29,808,900	27,668,111
Asia	25,134,755	24,839,368	24,446,336
South America	11,348,805	9,255,745	10,069,942
Other countries	1,500,000	1,500,000	76,500
Totals	$329,465,483	$350,088,253	$379,635,413

	1906.	1907.
North America	$124,335,082	$116,682,667
Africa	134,804,114	151,363,624
Australasia	82,358,207	75,849,349
Europe	28,085,462	33,296,415
Asia	23,933,670	23,706,026
South America	10,043,714	10,224,055
Other countries	1,500,000	1,500,000
Totals	$405,060,249	$412,622,136

The production is increasing in North America, Africa and Europe. Decreases are noticeable in the records of the other continents. The increase credited to Europe is due chiefly to the successful treatment of Australian and South American refractory ores and to the recovery of gold from copper, lead, zinc and other metals in the electrolytic establishments in England, France and Germany. It is not due to any increase in mining operations in Europe. Very little gold is mined at present in Europe. The decrease in the gold yield in Australasia is due entirely to economic factors and not in any way to the exhaustion of the gold fields. Notwithstanding the immense amount of gold Australian mines have yielded in the past fifty

years, mining in Australia, Tasmania, New Guinea, New Zealand and the surrounding islands may be said to be in its infancy. The gold yields of those countries could be stimulated to almost any degree by the introduction of adequate capital and by skillful mining methods.

The gold production in Asia is due mainly to the operation of the Indian mines. The leading gold mining district in India is at Kolar, in the province of Mysore. The Chinese fields yield about $7,000,000 worth of gold annually. Korea, Formosa, Japan and the East Indies also contribute to the Asiatic production.

The world's gold output last year amounted to 19,958,764 oz., valued at $412,556,136. About 78 per cent. of this was contributed by the Transvaal, United States, Australasia and Russia. There was an increase in production in 1907 in two of the great producing countries and a decrease in the other two. The production in the Transvaal advanced from $119,609,373 in 1906 to $133,352,381 in 1907; and that of Russia from $22,469,432 in 1906 to $26,518,253 last year; gains of 11.5 and 18 per cent., respectively. On the other hand, the output of the United States fell from $94,373,800 in 1906 to $89,198,711 in 1907, and that of Australasia from $82,358,207 in 1906 to $75,849,348 in 1907; the losses, respectively, being 5.5 and 7.9 per cent.

Gold Movements in Great Britain in 1907.

Although the industrial consumption of gold is increasing with increasing wealth, the annual output of gold is chiefly coined and used as a basis for new commercial credits. The world's gold market is in London. It will be interesting to study in conjunction with Table IV, giving the gold production in 1907, the fluctuations in the stocks and prices of gold in Great Britain in that year. According to the annual report of Messrs. Pixley & Abell, of London:

"The year 1907 will be memorable for the financial crisis in the United States, which, after threatening for many months, became dangerous during the last two months of the year, and caused great disturbance in the money markets of the world. The bank rate, which stood at 6 per cent. at the beginning of the year, was reduced to 5 per cent. on Jan. 17, to 4½ per cent. on April 11, and to 4 per cent. on April 25. It stood at this level until Aug. 15, when the rate was raised to 4½ per cent. On Oct. 31 on the commencement of the panic in New York, the rate advanced to 5½ per cent., and on the following Monday, Nov. 4, to 6 per cent. A further rise took place on Nov. 7 to 7 per cent., a rate that had not been touched since the year 1870, and at this it remained until the close of the year. The average for the year was 4.927 per cent., as compared with 4.274 per cent. in 1906.

"The arrivals of gold from all quarters amounted to

£55,600,000, against £46,000,000 in 1906 and £38,567,000 in 1905; while the total exports were £50,000,000, as compared with £43,000,000 in 1906 and £30,829,000 in 1905. The imports from South Africa amounted to £29,389,000, against £25,713,000 the previous year, an increase of over 14 per cent.

"The Indian demand for small gold bars was again large, and amounted to £5,700,000. Shipments were especially heavy during the first nine months of the year, but the inquiry slackened later on when the trade conditions became unfavorable owing to the great drop in the exchange.

"The price of gold remained at 77s. 9d. until the middle of March, when it was raised to 77s. 10½d. to prevent the arrivals from being taken by New York. When this demand had been arrested the price fell once more, and remained at the minimum until the middle of May, when the inquiry for Paris in repayment of loans made to England at the close of 1906 caused an advance to 77s. 10½d. There were no important demands then until August, when France again became a buyer, and this continued with intervals until October. On Oct. 28 the American demand began, and the price of gold rose to 78s. and from then on there was no reduction of importance until the end of the year, when the rate fell to 77s. 9½d. on the cessation of American purchases.

"The amount of gold bought by the United States in England was about £15,500,000, and in addition they bought supplies from other countries, so that the total shipments during November and December from this country were nearly £18,000,000. The high bank rate proved most effective in attracting gold to England to fill the vacancy caused by the withdrawals on American account, and in addition to £3,000,000 received from France under similar conditions to those made at the end of 1906, the bank received from Germany nearly £8,000,000, besides large amounts of Scandinavian coin.

"The exports to Argentina were again large, and amounted to just under £7,000,000. Egyptian requirements were also heavy and, in addition to gold which was shipped from India, also took nearly £4,500,000 from England. Turkey also took £750,000.

"Early in January the India Council added to their holding in London £1,000,000, but released £1,500,000 later in the year against silver purchases. In November and December they released further £2,500,000 in consequence of the falling off in the demand for India Council bills, and the gold reserve in London now stood £3,650,000 at the close of the year."

This account of the movements in gold during a year that will always be prominent in the world's financial history serves to excellently illustrate two factors that are very influential in promoting the search for gold. The reader will first notice the

universality of the demand for a share of the latest gold production. Then he will observe how dependent the world is upon the Anglo-Saxon peoples for their share of the newly mined gold.

There was a great absorption of gold for currency purposes in the early part of 1908. This will be seen by referring to Table VI, which gives the estimated gold production for the first three months of 1908, together with the gold held by bankers, in comparison with the figures for the corresponding period in 1907.

Table VI.

	1907.	1908.
Gold production.....	$100,683,000	$104,367,000
Bank holdings		
U. S. and Europe, Jan. 1.....	$3,351,300,000	$3,567,000,000
Holdings, April 1.....	3,400,000,000	3,656,500,000
Increase.	$48,700,000	$89,500,000
Gold not going to banks	$51,983,000	$14,867,000

The "Engineering and Mining Journal" in editorially commenting on these figures stated that, "In the first quarter of 1908, 85.8 per cent. of the approximate gold production of the world was added to bank reserves and currency; while 14.2 per cent. was absorbed in the arts or served to increase private stocks. In 1907, the bank gains were only 48.4 per cent. of the gold production, 51.6 per cent. going elsewhere. If we go a year further back, to 1906, we find the proportion showing in bank reserves to have been only 23.1 per cent., 76.9 per cent. going elsewhere. And yet the first quarters of 1906 and 1907 were periods of extremely active trade, when money was in general demand.

"The general conclusions to be drawn from these statements are that a period of great financial stringency may coincide with one of large gold production; the crisis being the result of other causes than the gold supply. Further, that such a period of stress, with consequent high interest rates, will draw out gold reserves which have been hidden, or at least have not been apparent or directly available. Finally, it is only a repetition of former experience that a time of financial trouble is followed by a period of decided monetary ease. This, however, is not the result of the gold supply, but rather of the general withdrawal of money from active and speculative use."

Capital Invested in Mining.

The gold annually won from the mines necessitates the expenditure of a large amount of capital and labor. The capital invested in gold mining is enormous. But, unfortunately, there

are no means at present of adequately estimating it. A good idea, however, regarding the amount of capital employed by British investors, may be obtained by studying Table V, which gives the number of mining companies registered in the United Kingdom during the 25 years ending 1904 and the amounts of their nominal capital. This table was compiled for the "Mining Journal," July 4, 1908, by Edward Ashmead, F. C. A.

Table V.—Capital in British Mines.

Year.	Number of Registrations.	Nominal Capital.
1880	157	£11,940,270
1881	217	20,848,450
1882	169	12,560,800
1883	151	14,712,398
1884	148	14,952,207
1885	138	24,448,951
1886	237	29,439,728
1887	269	34,002,041
1888	365	52,663,400
1889	378	41,015,425
1890	236	19,796,546
1891	298	35,187,125
1892	206	19,807,280
1893	210	14,725,427
1894	331	23,296,361
1895	961	107,387,241
1896	857	94,419,194
1897	606	64,457,583
1898	509	55,396,288
1899	559	71,687,366
1900	525	64,025,292
1901	519	46,376,237
1902	417	43,144,460
1903	430	41,376,052
1904	328	26,948,130
Total twenty-five years.....	9,221	£984,614,252

In referring to Table V, Mr. Ashmead states that:

"Prior to 1880 he found from the 'Stock Exchange Year Book' that in that year only 97 limited companies, registered in Great Britain for foreign and colonial mining, were recorded there as then in existence. Of these the larger part are now non-existent. The same book also notifies the fact that in 1880 157 British limited mining companies (including coal) were in operation. it will thus be seen that the great stride made in mining enterprise takes its rapid rise in the last twenty-five years— that is, from 1880. Gold mining in the Madras Presidency of India be-

gan in 1880; diamond mining (as regards English registered companies) in South Africa, the same year. The Transvaal gold discovery first took a firm hold on public attention in 1888, and about the same time other gold fields opened up their wealth: Queensland in 1886, Rhodesia in 1893, Western Australia in 1894, and Klondyke and Yukon in 1900. A revival took place in the Gold Coast mines also in 1900, and the Egyptian Sudan in 1903 went to work to rediscover and open up ancient abandoned mines. This activity also brought other mining districts abroad into greater prominence. Mines in Europe, and in the United States and Mexico especially, gained in public interest in England in late years.

"Table V has taken much time to compile, and should prove useful for permanent reference. It gives the number of mining and mine exploration companies registered in each year—1880 to 1904—and the total nominal capital of the same.

"This gives an average of 369 companies and £39,384,570 of nominal capital per annum, and one company and more than one hundred thousand pounds for each day embraced in the twenty-five years under review.

"The record year was 1895, when 961 companies registered with over one hundred and seven million capital. The following year (1906) was also a great year for new mining companies; Western Australia and South Africa were both well to the front in these two years.

"The capital, as near as I can dissect it, was registered to be applied as under:

	Companies.	Nominal Capital.
For British home mining, including coal and iron	2,200	£120,737,077
For the British Colonies and Dependencies, including the Transvaal	4,716	558,992,988
For foreign parts, including the United States	2,305	304,884,187
Total, 25 years	9,221	£984,614,252

"American mining investments during the same period were much more extensive than the British."

Other Means for Promoting the Gold Yield.

The annual investment of new capital in developing new mines and mining districts is, probably, the most important factor in promoting the production of gold. But there are many other factors. In some districts severe droughts promote mining by: (1) drying up rivers and streams, thus enabling the gold in the sand in their beds to be worked; and (2) by forcing farm and pastoral workers to seek mining work.

In Australasia and other countries the governments offer bounties, and furnish mining appliances, with the view of promoting the development of new mining districts.

But the most important factor influencing gold production, after the investment of new capital in mines, is the improvement in metallurgical processes and mining methods. This may take various forms. The following will be referred to:

Improvement in Old Processes.

The early mines in California and the Western States were chiefly equipped with Mexican arrastras. They were slow in operation and very inefficient in saving gold. To-day gold ores are crushed and amalgamated in batteries of high-speed stamps of great capacity at a cost of about 50c. per ton. Morison high-speed stamps, weighing 1,600 lbs. per stamp, crush 10 tons of ore per day per stamp at the Meyer and Charleston mine on the Transvaal field.

The efficiency of crushing mills is increased by automatic screening and feeding appliances, and by following up the amalgamation treatment by chemical or smelting processes. For example, the method of treating the ore from the Ivanhoe Mine, Kalgvorlie, West Australia, is as follows: The ore is coarsely crushed in rock breakers, sized in trommel screens and automatically fed to heavy high speed stamps. The gold is amalgamated inside the mortar of the battery and on outside copper tables. The sulphides are concentrated after leaving the amalgamating tables, roasted and cyanided. The sand is treated by bromo-cyanide solutions and the slime is treated in filter presses. Most of the large mines on the field possess mills employing similar complicated processes. In such works very little gold is lost, whereas in the early mining plants in the Western States the loss of gold in treatment was often very large.

Improvements in electrolytic processes have enabled large quantities of gold to be extracted from combination with other metals.

Smelting methods have, also, been greatly improved. This enables almost all kinds of copper, zinc, lead, antimony, nickel and other ores containing gold to be profitably worked.

Invention of New Processes.

The invention of new processes, like the cyanide process, reduces the costs of gold production, and opens up new sources of gold.

The cyanide process has enabled a great number of mines throughout the world, having low-grade ores, to be profitably worked. The invention of tube mills for fine-grinding, and of decantation and filtering machinery for slime treatment, and agitating and aeration appliances, have recently greatly improved

the efficiency of the cyanide process and very considerably reduced its cost.

New Mining Methods.

Mining methods are constantly being improved. Such methods as those practiced in the open cuts at the Mount Morgan mine in Queensland greatly reduce mining costs.

The introduction of gold dredges has opened up large areas of gold-bearing land to miners. This method of mining is largely responsible for the increase in gold production in recent years in New Zealand, Siberia, California, Alaska and elsewhere. The average cost of dredging gold in California is 6c. per cubic yard with a machine of 40,000 cubic yards capacity, and 5c. per cubic yard with a dredge of 70,000 cubic yards monthly capacity

Future Prospects of Gold Mining.

Gold is widely dispersed in nature. It is not only found concentrated in rich veins; but occurs in immense quantities in sand and sandstone deposits throughout the world. Many volcanic rocks also contain gold. In some districts such volcanic rocks are being worked for their gold contents. It is estimated that the known gold fields are capable of supplying the world's gold demands for several centuries. When they are exhausted, putting aside any reference to the probability of new fields being discovered and developed, improvements in mining and metallurgical processes will enable poorer and poorer gold-bearing formations to be worked. There is no possibility of a gold famine occurring. Indications all point to a continued steady increase in gold production. Deficiencies caused by the working out of rich bonanza deposits on certain fields will be balanced by the finding of similar bonanzas on other fields, or by the operation of low grade deposits on a large scale by means of improved and cheapened processes. The annual gold yield is now above $412,000,000. The demand for gold is so keen that there is no probability of the yield being permitted to fall below that amount. We may confidently anticipate progressive yearly increases in production.

Arthur Selwyn-Brown.

THE OUTLOOK FOR THE NEXT SIX MONTHS.

By Professor J. Pease Norton, of Yale University; author of Statistical Studies in the New York Money Market, etc.

August 4, 1908.

To attempt to penetrate the intricate tangle of the financial, political, industrial and technical interactions with a view to determining the immediate outlook, covering the period of the two succeeding quarters, is peculiarly interesting at the present juncture. Until recently, the political influence has been important.

Political Clouds Breaking Away.

Even during August, September and October, the political influence would seem ascendant. A brilliant orator is matched against a judge. For the stage setting we have factories in idleness, labor unemployed and high prices for all foodstuffs. Such a situation ordinarily would work out with perfect precision. For ordinarily, we should expect a reversal for the party in power.

But at this juncture, radicalism is not popular. By a combination of events, radicalism is held to be largely responsible for the crisis. Roosevelt has, it is believed, out-Heroded Bryan with greater skill than Bryan as President perhaps would have been capable of. The people have, it is said, already tasted the forbidden fruit of hasty radicalism. The people who live in cities and not the agricultural classes, are the sufferers in this depression. The farmers, when in trouble, readily take to all kinds of theoretical novelties in the way of political relief, but the city dwellers are apt to suffer in silence. It takes a sterner radicalism to arouse them, one which promises more immediate relief than far-flung referenda or recalls. City dwellers prefer state relief for the unemployed, largess, pensions. No similarity exists politically between the crisis of 1907 and 1893. In the nineties, the farmers were disturbed over the problem of selling bread for money. The low prices were an advantage to the city people. In 1908, the city people are disturbed over the problem of buying bread without money. High prices for foodstuffs mean, now, greater prosperity for the farmers.

The whole affair has been a problem for the leading classes. That the financial interests prefer Taft to Bryan is well known at this writing. They can elect Taft readily enough, not by over-financing his personal campaign, but by splitting the Democratic party in the doubtful states. For, by this device, not only are the ill effects of huge campaign funds obviated, but, more important, the expense of drawing three or four per cent. of the votes away from the radical end of the moderately radical party is far easier and considerably less costly than pulling three or four per cent. of the votes from the conservative end of the Democratic party to Taft's support.

The Day of Independent Parties.

The growth of the Socialist Party, the Prohibition Party, and the Independence Party follows the order of events in older countries. Assuming that the Independence Party, depending on Mr. Hearst's newspapers, which circulate in the large cities and in the doubtful states, for their support, shall succeed by well-directed local issues in drawing in the doubtful states even a relatively few votes from the Democratic party, Bryan's chances are reduced beyond possibility of success.

There Are No Issues In This Campaign.

Reduced to a nutshell, there are no issues before the country, because both parties have covered pretty much the same ground in their platforms. The important issues have been dextrously eliminated in advance by the monetary commission and by the federal prosecutions against corporations now under way. Consequently, the radicalism of Roosevelt must work against Bryan among the moderately conservative; for, theoretically, Bryan's policies are similar in many ways to Roosevelt's. Moreover, Taft is skilled in court procedure, and therefore it is felt he must be even more conservative. On the other hand, the radicalism of Roosevelt and Bryan is altogether too insipid for the ultra-radicals; in other words, quite ineffective. The ultra-radicals are largely in the Democratic party. The ultra-radicalism is not railroad regulation, but government ownership; not mild anti-trust laws, but trust-crumbling taxation which diverts the surplus profits to the state. The ultra-radicalism which can become swiftly popular demands not the "square deal," but the odds in favor of the **proletariat.** Therefore, from the alignment of personalities and issues, we need not fear the effects on business of sudden changes caused either by **ultra** or moderate radicalism; for, at this writing the probabilities would seem overwhelmingly to favor the election of Mr. Taft, both judge and executive; conservative by training, yet not conservatively impractical; in fact, already proven as an executive **radically** practical.

Politics About Eliminated.

The election of Mr. Taft will be, it would appear, favorably discounted long before the end of October. Little can occur to disturb business in the progress of this campaign. For where Bryan may paint by day eloquent word pictures of corporations in the process of future reformation, Roosevelt will cause the oil to burn against the sky late into the night electrifying the bear-baiting contest, Federal Government vs. Standard Oil.

Assuming Taft elected, the remaining dangers in the way of shocks to a prosperity revival are: current prosecutions against the trusts, and legislation by Congress at the short session. The success of probable appeals from drastic sentences will tend to soften federal victories. Congress will be unchanged as a result of the elections for many months. Otherwise there are few disturbing influences outstanding at the present time.

The Monetary Commission.

It is probable that the monetary commission has eliminated from the campaign what might have proved a very dangerous issue. On August 4, Mr. Aldrich sails with this issue for a careful study of foreign monetary systems abroad. As a result, we may reason-

ably expect our own monetary system will eventually be made technically more perfect. At any rate, we may expect no sudden change. In the same way, the appointment of a standing Tariff Commission will probably ultimately remove this issue from political campaigns.

Important Problems of The Monetary Commission.

The present commission is facing the problems of inflation, a condition of affairs which are the reverse of 1894. We are in the era of a world inflation. How extensive had been this inflation, by discovery of new processes of mining gold, and new sources of supply, and, more important yet, by new inventions in credit in the way of economizing the use of gold, the first two, at least, Mr. Arthur Selwyn-Brown* has exhaustively pointed out.

The whole subject of gold inflation has been a source of much controversy, largely arising from misconceptions. Some writers have maintained that increased supplies of gold cause interest to rise. This is the long-time view and applies to averages of interest covering three and five-year periods. Bankers know that increased gold reserves automatically reduce interest. This is the short-time view and applies to periods of two months to a year. The chain of events consists of: increased production of gold, low interest as a result of large reserves, general speculation resulting from optimistic calculation of profits on the basis of too low a cost for borrowed capital, pyramiding, rising prices from the speculative demand, higher wages arising from higher cost of living, higher interest because the demand for capital for productive purposes outruns the supply, permanent depreciation of gold, permanent increase in prices, excessive interest, producing a collapse of the credit machinery, temporary stagnation of business. This is the constantly recurring cycle. The money then collects in banks temporarily, and excessively low interest results, as at present.

The interest rate during periods of gold depreciation fluctuates more violently and over a wider range. Commodity prices rose 70% to the beginning of the crisis. Since this high point they have declined 15 to 20%. The low interest, the large supplies of gold, returning optimism, the elimination of political uncertainties, all should result in a violent increase in commodity prices, in railroad rates, in railroad earnings, and long advance in the prices of railroad stocks. The people will do well to purchase the common stocks of honestly managed industrials and railroad corporations. Great profits are ahead, and an era of great activity. As stocks rise in price, bonds will fall still further. In the 1904 depression, New York 3½% bonds sold at 104. In 1908 New York City 3½'s are less than 90, a decline of 14 points. If the gold depreciation theory is correct, we may expect to see the prices of stocks very much higher. The more heavily bonded they are, the higher they will go; and bonds will go very much lower.

* In the Special Market Letter of July 28, 1908.

Stocks vs. Bonds.

If in a renewal of activity, interest shall harden to 6% and 7% for long periods after a period of speculation of eighteen months, dating from the present time, the event could hardly fail to depress the price of substantial bonds, like New York City issues, ten to fifteen points, and specialties to a considerably greater extent. The reasoning underlying the probability is drawn not only from the effects of gold depreciation which in the long run steadily depresses the prices of bonds which have no equities, but also from technical causes.

The supply of bonds is very large at present. Banks hold considerable quantities bought at higher prices. Substantial advances in price will be met by heavy sales; there is an enormous amount of bonds carried over the crisis by syndicates. These bonds were underwritten at prices which show at present heavy losses to the members. These bonds, when offered, will carry high actual yields and will, therefore, tend to compete with issues now held by banks and investors, since these latter issues have no more adequate security.

To increase the market for these securities, doubtless, earnest efforts will be made in the way of effecting legislation so that these bonds may become security for public deposits and bank circulation. This temporary solution for the bond market will help to carry on at a more rapid rate the great inflation.

It will mean in the end a redundant currency, higher interest, higher prices for commodities, higher prices for stocks, and ultimately, another collapse in credit, more destructive than that of 1908. But as long as interest stays low, we may expect the glad effects of the merry pyramid of inflation, which the markets build so enthusiastically, and await with foresight the toppling of the pyramid, the collapse of the inflation, the Presidential campaign of 1912, and perhaps the crisis of 1913-14, which has been already foretold by the chronic chronologist, as twenty years after the great panic of 1893, forty years after the dark days of 1873.

Revival of Prosperity at Hand.

But now, the indications are that the revival of business is on in earnest, and that prosperity will soon be evident. To this date general statistics are negative. But technical information is quite encouraging. The recovery is due to fundamental causes, economic in their nature, great crops, a wonderful growing country, an inventive people, a sound technical position in the industries and in the corporations, and, lastly, the realization by a few wealthy people of the important effects of gold depreciation. That earnest attention has been paid to the subject by certain important banking interests, and that this probability has figured in plans framed for many months ahead, are facts which are doubtless within the

knowledge of a few. In this connection, the true meaning of Mr. Arthur Selwyn-Brown's words regarding the gold production of the future should be emphasized again at least by repetition. "There is no possibility of a gold famine occuring. We may confidently anticipate **progressive** yearly increases in production." In other words, the inflation must proceed at an increasing rate.

The Immediate Outlook.

The stock market has passed through the panic more or less successfully. Few receiverships have occurred. The damage has not been excessive. The recovery to date has been very rapid. For the 1907 disturbance was a credit crisis, arising from inflation, and not an industrial crisis arising from war or waste or great shortage in the crops.

The immediate question is whether the rise in prices has sufficiently discounted the future conditions which we have reason to believe will develop of a favorable nature within the next six or eight months. This would appear quite improbable. Much of the advance is a recoil from two extreme declines, declines which were beyond reason, when measured against existing conditions. It is doubtful whether the elimination of political uncertainty, the recovery in earnings which will be evident during the next six months, the easy monetary conditions, the growing crops, the return of optimism, the effects of gold depreciation, and the rate of growth of our nation, partially checked, have yet been adequately discounted. The public is very timid. The stock market is still among the foothills, and far from the peaks. As long as the public hesitates, the days of large reactions are comparatively insignificant.

J. Pease Norton.

RAILROAD EARNINGS AND THE NEW ACCOUNTING.

By George Bevan Mott, Editorial Staff "The Wall Street Summary."

August 11, 1908.

It is moderately stated, by one of the most prominent railroad accounting officers in the country, that the effect on railroad operating statements of the new Classification of Earnings and Expenses, effective July 1, 1907, as prescribed by the Interstate Commerce Commission, has not been correctly interpreted by "some of the writers on some of the Wall Street papers." This is not to be wondered at, as railroad officials and accountants themselves have had a trying year interpreting and applying the new regulations. Popularly, little has been understood as to the vagaries of the

railroad operating figures, issued by the Interstate Commerce Commission.

Much good might be attained by a more widespread knowledge of the purpose of the commission in instituting the new system of accounting: Uniformity, for administrative supervision, comparison and publicity. That the railroads have been in accord with this purpose is shown by the fact that the new regulations are the joint product of all the leading railroad accountants in the country, through Professor Adams' consultation with the committee of twenty-five railroad accounting officers in Washington, and from his correspondence with individuals, and from their personal suggestions. That the end for which the commission is striving is to be desired, and that the principles of the new accounting are sound, is admitted; but the definite application of certain of the principles is claimed to be too theoretical, and the system, perhaps from the very method of its origin, is encumbered with unnecessary detail.

In three ways the new classification has a direct bearing on the railroad's monthly statements of operation: First, certain items formerly included in "gross earnings" do not appear in "total operating revenue," but are stated separately in the income account; second, maintenance costs must be charged in full to operating expenses and not, as formerly in many instances, partly to income; third, depreciation of equipment charges are made obligatory to operating expenses. Thus it is evident that a part of the falling off in "net operating revenue" of the last fiscal year, in comparison with "net earnings" of the previous year, is due solely to the change in bookkeeping methods.

Total Operating Revenues.

These include revenues from the operation of the railroad only, other items being carried direct to the income account, as "miscellaneous" or "outside operations." Under the last two classifications are included switching service not performed on basis of tariffs; hire of equipment; telegraph service, when divisible from the regular railway service; rents of buildings and other property, when such property is not used in connection with the operations of the carrier and its expense is separable therefrom; earnings from canals, ferries, boat lines, express business done by the carrier itself, lighterage and float transfers, baggage and freight transfers, trolley lines, parlor and sleeping car service, stockyard and elevator service, etc. That the aggregate of these items is considerable may be seen from the following table of the original figures of the Lehigh Valley's "net earnings" for the first eleven months of 1906, and these figures revised into "net operating revenue," according to the Interstate Commerce Commission's classification of operating revenues.

	Original 1906.	Revised 1906.	Decrease.
July	$1,332,550	$1,304,259	$28,291
Aug.	1,516,462	1,465,239	51,223
Sept.	1,337,731	1,299,596	38,135
Oct.	1,287,627	1,270,064	17,563
Nov.	1,167,682	1,118,856	48,820
Dec.	975,828	926,571	49,257
Jan.	845,940	800,311	45,629
Feb.	476,427	453,518	22,909
March	1,123,666	1,131,227	*7,561
April	1,222,449	1,225,269	*2,820
May	1,297,728	1,264,540	33,188
Total	$12,584,090	$12,259,450	$324,640

* Increase.

Thus it is evident that in the first eleven months of 1906 nearly $325,000 was credited to "gross earnings," which, in the last fiscal year, would have been carried direct to the income account, so that last year's apparent shrinkage in "total operating revenue" is reduced by that amount, or a proportionate one, according to the volume of business done.

Operating Expenses.

"All the costs of maintenance and no more than the costs of maintenance shall be charged to the maintenance accounts of operating expenses." Thus is uniformity in the place of charging these costs made obligatory by the Interstate Commerce Commission—a consummation devoutly to be wished. Formerly, many roads would charge as small amount for maintenance as possible, to operating expenses, in order to make an apparently favorable showing of operating efficiency and of surplus income. Then, perhaps, they would make special appropriations out of this surplus income for the balance of the actual costs of maintenance. It is believed that other roads have made extraordinary charges to operating expenses for maintenance, in order to conceal the extent of their surplus income. These practices in the past have resulted in "stuffing or starving" the road and equipment, and in building up secret reserves or deficits. Whatever may have been the justification in policy or business for either of these courses, it may be seen readily that they have prevented a clear understanding of the actual conditions of particular companies by any person not an expert accountant. Briefly, then, the new regulations require that all the actual costs of maintenance be charged to operating expenses, and not to income or arbitrarily proportioned among such accounts as the officials of each road may prefer.

By far the most frequent course has been to keep the operating percentage as low as possible, by charging small sums to

operating expenses for maintenance, and then supplying the deficiency by making special appropriations from income. Therefore, under the new requirements, the monthly operating figures for the past fiscal year have shown, in many cases, large increases in operating expenses, due to the fact that the amounts of the special appropriations formerly made have been proportioned monthly to operating expenses.

A feature of the new accounting which has aroused considerable criticism is the treatment of obsolescence of equipment. When a car or locomotive becomes useless because it is of an out-of-date type unfit for present traffic conditions and is condemned, its original cost, over and above its scrap value or the amount realized by its sale, and the amount previously charged for depreciation up to the date of condemnation, is made a charge against the renewal account of operating expenses in the month in which the condemnation occurs. It is not believed that so far this requirement has resulted in any special increase in operating expenses; but this is because the managements of the railroads have not ordered the actual condemnations of such equipment, when necessary, owing to their effect on operating expenses in the present period of depression. Sooner or later the condemnations will have to be made; but they are deferred in the hope that the commission will make the adjustment of obsolescence through profit and loss, or otherwise, as a charge to income, the same as, or comprehended in, accrued depreciation prior to July 1, 1907.

Depreciation.

No other feature of the new accounting has caused such a storm of discussion and criticism as the depreciation requirements. The principle of making provision for the loss of investment growing out of depreciation is generally recognized. In fact, all properly conducted railroads, as well as other businesses where there is a loss to property from wear and tear, have in the past made an allowance for the depreciation of their equipment, through charges to expenses or reserve funds, or otherwise as deductions from income. The commission requires uniformity as to the place and manner of depreciation charge, in order to obtain its orderly measurement and periodic statement. One twelfth of the estimated annual depreciation must be included in the monthly operating expenses.

It is the purpose of the commission in requiring the monthly division of the depreciation charge to have the cost of each car or locomotive charged to expenses piecemeal during its life, so that, when the piece of equipment goes out of service, its cost shall all have been charged to expenses. Evidently, then, this adds nothing to the ultimate expenses of the carrier; but, if it has been the practice of a road to charge off depreciation in a lump sum when the car or locomotive was retired, the new

method would lead to a considerable increase in monthly operating expenses. The credit created by the depreciation charge is to be used in such replacements or purchases of whatever class of equipment most needed, as may be necessary to maintain the value (not the capacity or standard of operating efficiency) of the property.

Therefore, as the question of depreciation is fundamentally one of values, the original cost of equipment (estimated if not known) is the amount to which the depreciation percentage shall be applied. If a secret equipment reserve has been built up through excessive charges to earnings in time past, the excess value thus placed in the property must remain as a permanent undivided asset to the stockholders. If, on the other hand, the property has been depreciated by insufficient charges to earnings, the accrued depreciation must be rectified through profit and loss at the time of the retirement of the equipment. All funds spent in the replacement of equipment, in excess of the amount accrued in the depreciation account, must be charged to some account other than expense, such as capital, improvements or otherwise deducted from income.

It has been left to the individual judgment of each carrier to fix a depreciation rate which is fair and adequate, as conditions of traffic, service and equipment, which affect the life of equipment, vary so greatly on different roads. Taking the Lehigh Valley, with which the writer is fairly familiar, as an illustration, and assuming that the value of equipment as given by the balance sheet is the actual cost price, and figuring the average life of all kinds of equipment at 28 years (considering all the factors pertaining to the life of the Lehigh Valley's equipment, this seems a reasonable estimate) the depreciation rate would be 3½% per annum on the cost of the equipment. At this rate, the depreciation charges are sufficient to account for $100,000 monthly, or $1,200,000 annually, of the increase in the Lehigh Valley's operating expenses of the past fiscal year.

A few words in criticism of the elapsed time basis of computing depreciation, as laid down by the commission, would not be amiss. It is contended that, as depreciation does not occur with regularity, but varies with the ups and downs of traffic movements, the arbitrary charging of a fixed percentage works hardship to the railroads, and is a false measure of actual depreciation. Economy in depreciation charges should be as possible as in any other operating cost.

As a constructive suggestion for a practical basis for computing depreciation charges, service expectancy and service performance has been suggested, to be applied to each class of equipment separately according to its own peculiar conditions. Therefore it would be necessary to ascertain a depreciation rate per service unit for each class of equipment. The method of obtaining this is explained in "Uniform Railroad Accounting," as follows:

"From the records of a considerable number of this type of car" (the old type wooden box car) "on one of the large railroad systems, an average yearly mileage has been computed of 6,577. The average life of 260 cars of this type recently condemned was 26.2 years. Therefore the estimated average service expectancy would be 172,317 miles per car. Dividing this into the cost of the car, say, $800, the depreciation rate per service unit would be $.004643 per mile. Car records of mileage are already kept by the railroads. It would only be necessary to keep the records for each type separately, as indicated by the series numbers. If, then, a road has 5,000 cars of this type in service, and the actual number of miles run, or service performance, for the type of car, aggregated for one month 2,740,000 (an average of 548 miles per car), the amount charged to operating expenses for that month for depreciation would amount to the number of miles multiplied by the depreciation rate per service unit, or 2,740,000 × $.004643, or $12,713.60. This amount is calculated on an average service performance.

If, however, the traffic movement were, say, only 75% of normal, the monthly amount charged to operating expenses for depreciation would be only $9,535.20. If business were 25% above normal the monthly amount charged would be $15,892. Thus, over the whole period of service performance, the depreciation costs would be charged according to the revenue-producing activity of the equipment; and, at the time for the retirement of the equipment, the entire "expired outlay on productive plant" would have been provided for.

From the foregoing it is evident that the severe falling off in "net operating revenues" of the last fiscal year, in comparison with "net earnings" of the previous year, is not entirely due to depressed business conditions or high cost of materials and labor, but is due to some degree to the new system of railroad accounting. To the extent for which the bookkeeping methods are responsible for this decrease, an adjustment will be reached in the income accounts, when the annual reports for the past fiscal year make their appearance.

George Bevan Mott.

GOLD DEPRECIATION AND SECURITY VALUES.

By Byron W. Holt.

September 1, 1908.

The big investors, speculators and property owners of the world are, as a rule, men of unusual intelligence and keenness. Besides being practical men of affairs they are usually somewhat close students of conditions and markets. They have learned how to

solve all of the ordinary industrial and financial problems in a way to add to their property holdings.

In recent years, however—that is, since about 1896—a new factor has appeared in money-making problems that is so insidious and disturbing that it is confusing and confounding our wealth-getters both great and small. Because of the influence of this very important new factor in upsetting many of the calculations of our actuaries, treasurers and auditors, not a few of the old lessons, rules and maxims for acquiring wealth will have to be unlearned or reversed.

For example, there is no more certain road to wealth to-day than to go into debt—intelligently. Neither is there any more certain way to lose wealth than to become an ordinary creditor—that is, to own first-class bonds from year to year. To-day, the conservative who puts his money into government or other high-grade bonds will see his fortune vanish, while the reckless speculator who puts his money into heavily mortgaged real estate or the stocks of heavily bonded industrial corporations may see his wealth multiply rapidly. If he buys these stocks on a safe margin, his wealth will multiply even faster.

To those who do not see, or do not understand, the new and great fundamental cause that is silently but surely and rapidly changing the ownership of wealth and overturning the conclusions of the past experience of wealth-getters, success or failure appears to be uncertain and a matter of blind chance. To some extent this may be true. Some investors and speculators may happen, ignorantly, to buy and hold the same classes of securities that they would buy and hold if they were acting intelligently; but this is unlikely. Those who know the good things from the poor things will almost certainly succeed in trading off the poor things for the good ones.

For example, ordinary investors are, perhaps, now selling more stocks than they are buying. They cannot understand why stocks should continue to advance and to show such remarkable strength, in the face of existing facts or of any coming industrial improvement that appears probable to their ordinary minds. They think somebody is making a great mistake in buying stocks so confidently.

But suppose the big somebodies who are now buying the stocks that the public is selling have their eyes open to some new facts and conditions that make it reasonably certain that business will revive so rapidly that stocks will be in great demand at high prices six months hence; who, then, is mistaken?

There are rumors that the effect of gold supply and depreciation upon security values has been a subject of discussion in recent conferences held in the offices of some of our greatest financiers. It is said that the conclusions there reached, at least in the minds of some of the participants, are likely to have far-reaching effects upon security prices. Mr. Howard S. Mott, the financial editor of Harper's Weekly, says, in the issue of August 29:

"There is no real 'new dogma' in this theory of the effects of

gold depreciation. But the acuteness of some of the effects recently witnessed has led to earnest consideration of the problem it presents by many students of finance. It is quite conceivable that our captains of industry may be actuated in the 'wisdom' they are displaying at the present time by a good understanding of this problem."

In considering this gold problem several important questions are presented:

1. Will the gold supply continue to increase rapidly for years to come?
2. Does the purchasing power of gold decrease as the quantity of gold increases?
3. Assuming that gold will continue to depreciate in value (that is, that prices will rise), what will be the effect upon interest rates, bond values, earnings, stock prices, etc.?

The first question has been well answered by Mr. Arthur Selwyn-Brown in the Special Market Letter of July 28, 1908. As a mining engineer and expert, he reaches the conclusion, after considering the world's sources of gold supply, present mining methods and capital employed, and future probabilities as to new sources of supply and methods of production, that "We may confidently anticipate progressive yearly increases in production."

While there are some mining engineers who are less confident of the future than is Mr. Selwyn-Brown, there is good reason for thinking that his conclusion is entirely conservative. Gold production, in recent years, has been established on a very different and much more certain basis than that of 20 or 30 years ago. To-day the output is less dependent upon the uncertain output from placer mines and more dependent upon the almost certain output from the inexhaustible supplies of low-grade ores in rock, sand and clay. Apparently, the only thing that can materially lessen the output of gold will be the increased cost of obtaining it, due to the depreciation of gold itself. If improvements in mining and metallurgical processes do not keep pace with the decreasing purchasing power of gold, there must, and will, come a time when, because of rising wages and rising prices of machinery, material and supplies, the cost of mining will so nearly equal the value of the gold produced that production will diminish.

The Wall Street Journal of June 5, 1908, expressed the opinion that "already, it may be said that the gold production is apexing," and that, "in the opinion of the leading mining authorities of the world," the output will begin to fall off in from three to five years. Unfortunately, the Wall Street Journal did not mention its authorities or give us their arguments. Had it done so, it might be possible to show that these same authorities have been advancing these same arguments for ten or twenty years—arguments that have been already disproved by facts. One of these authorities may be the writer in the Engineering and Mining Journal of June 27, 1908, who said:

"It has been shown by many authorities that, taking into consideration all outlay, gold has, in late years, been produced at a loss. While the mines that pay dividends are exceptional, those that produce gold at a loss are plentiful."

It may be true that the average cost of producing gold exceeds the value of the gold output. The production of gold does not necessarily stop when the cost exceeds its value. Men do not stop speculating in Wall Street because the average speculator loses money. Only 15 or 20 per cent. win, and yet the supply of speculators does not diminish. The opportunities for big winnings attract both speculators and miners.

As, however, the production of gold becomes less and less dependent upon chance finds and more dependent upon the use of "stamp mills," cyanide mills, dredging machines and other gold-extracting apparatus, employed mainly by large corporations and working on inexhaustible supplies, the profits of production will, in future, be more calculable and certain and the amount of gold produced at a net loss will diminish.

The one thing certain is that the output of gold has doubled twice in about 24 years and is continuing to increase rapidly this year. The payment, in London, a few days ago, of $25,000,000 in dividends on South African mining stocks and the fact that these stocks have, within three weeks, added $100,000,000 to their former values, does not indicate that gold is produced at a loss in the world's greatest mines or that "gold production is apexing." If the output of gold continued to increase at an average rate of about 8% from 1901 to 1907, when times were good and the cost of mining was rising rapidly, will it not be likely to increase even more rapidly this and next year, when times are bad, when labor is cheap and efficient and when prices of commodities are considerably lower than in 1906 and 1907? Is it not the rule that a boom in the mining of gold and silver follows an industrial depression? Is not a decline in prices and wages equivalent to an advance in the price of gold? The profits of production being greater, why should not the output of gold increase rapidly at such times?

Will Gold Depreciate as the Quantity Increases?

Space will not permit even the mention here of the various theories held by economic authorities in regard to the "quantity theory of money." We believe, however, that the best thought of the best economists is reaching the conclusion that the cost of producing gold determines, or tends to determine, the exchange value of gold with other commodities, just as the cost of producing other commodities determines their exchange value with each other. This being true, it naturally follows that when the cost of producing gold, measured by other commodities, is low, both the production of gold and the supply of gold will increase. As the quantity increases the quantities of other products for which it exchanges will gradually decrease. That is, the prices of commodities will rise.

It is not necessary that there should be an exact ratio between the quantity of gold and of other commodities. Thus no one, perhaps, will pretend to say that prices should exactly double every time the quantity of gold doubles, or that a 25% increase in the supply of gold will be followed by a 25% increase in the average of prices. It is probably true, however, that the ratio between gold and other things is more nearly direct than is the exchange value (price) between the changing quantities of other commodities. That is, a 100% increase in the world's supply of gold will more nearly depreciate the value of gold 50% than will a 100% increase in the quantity of wheat, or copper, or peaches, or maple sugar depreciate the price of either, or all, of these commodities by 50%. Doubling the quantity of some commodities would more, and of others less, than halve their prices. Doubling the quantity of gold will, perhaps, after allowing for the growth in the world's supply of goods and for the natural decline in the prices of commodities (especially manufactured ones), be about equivalent to doubling the prices of commodities—that is, to depreciating the purchasing power of gold 50%.

Thus, since 1896, the world's visible supply of gold has increased from $4,359,600,000 to about $7,250,000,000, in 1908, or 66%. From 1896 to March, 1907, average prices rose about 60% in this country, and 40% in England. From March, 1907, to June, 1908, prices declined about 15% both in this country and in England. From June to August prices rose about 3% in this country. At present, therefore, average prices are about 45% higher in this country and 25% higher in England than they were ten or twelve years ago.

Assuming that monopolies are largely responsible for the greater advance in prices in this country than in England, it appears that average prices are now about 30% higher than they were in 1896 and 1897. Average prices, then, have risen about 30%, while the quantity of gold has risen 60%. It would appear from these statistics that a yearly increase of about 2½% in the world's gold supply is necessary to offset the natural decline in prices and the increased quantity of goods and that all above this 2½% tells directly on prices. This statement is, of course, only an approximation. It may be far from true in the next decade. It is probable that, during the next two years, prices will advance much faster than the gold supply will increase. Possibly, and even probably, the rise in prices, during the next five years, will fully keep pace with the rise in the quantity of gold.

If, then, as now seems probable, the world's visible supply of gold increases 25% by 1913, it is more than likely that the price level will then be fully 25% higher than it now is. By 1918 we may confidently expect to see prices 50% higher than they now are.

Effects upon Interest Rates and Security Values.

The preceding brief discussion of gold output and depreciation is necessary because it is fundamental.

If the gold supply is not to continue to increase or if an increase

in the world's gold supply does not mean higher prices for commodities, then there is no need to waste time discussing the effects of the gold supply upon security values.

It is reasonably certain, however, that our gold supply will continue to increase rapidly and that prices of commodities will continue the rapid rise of the last eleven years, broken only in 1903 and 1907.

One of the most certain results of depreciating gold and rising prices is rising or high interest rates. This anomalous fact is not understood by many investors and speculators, nearly all of whom naturally suppose that more money means cheaper money—that is, lower interest rates. The explanation is not difficult.

When prices are rising rapidly, from year to year, there is a great demand for money to invest in property which is appreciating in value and in the production of the things that the people are willing to buy at higher and higher prices. Nearly everybody wants to speculate in commodities and opportunities to production. Those who are without capital are willing to pay high rates of interest to obtain it.

When prices are rising, the owners of property that is increasing in value are getting richer and feeling richer; hence they are spending freely. Because prices are rising, merchants are buying more goods, farmers more land and real estate speculators more lots and houses than they need. Everybody is trying to get ahead of everybody else. The monopoly and forestalling game goes on at accelerating speed, until something happens to cause a halt. Then, suddenly, everybody wants to sell and get out. Prices tumble, possibly a panic occurs and then follow one, two or three years of depression and recuperation.

Human nature remaining unchanged, rapidly rising prices will always mean extravagance, recklessness, over speculation, inflation, collapse, remorse. Periods of great industrial activity and of stagnation and depression will follow each other in rapid succession. The masses of the people will become discontented and rebellious.

Viewed from the standpoint of the lender of capital, we can see another reason why interest rates should be high when money is depreciating in value. If the depreciation is 5% a year the principal of a debt is losing 5% of its purchasing power each year. At such a time a rate of 4% would yield 1% less than nothing to the lender of capital. It is evident that the rate of money interest should be sufficient not only to make good the shrinkage in the principals of debt but to return something more to lenders.

This somewhat new theory of money rates is fully discussed in Professor Irving Fisher's recent work on "The Rate of Interest." It is now fully accepted by John B. Clark, J. Pease Norton and other professors and economists. It is the only theory that fits the facts at all times and in all places. It explains why interest rates have been high, during periods of great gold production, and low during periods of low production. It explains why interest

rates, were, previous to 1896, higher in silver than in gold-using countries.

It is certain that interest rates have averaged very high during the last six or eight years. It is almost as certain that they will average high (say, from 5 to 7% for time money) during the next five or ten years. The present low rates may last a few months longer, but are reasonably certain to be followed by considerably higher rates within a year if not within six months.

High Interest Rates Mean Lower Prices for Bonds.

Men with surplus money are always on the lookout to get as big a yield as possible from it. They will not long hold bonds that yield only 4 or 5% when they can loan money outright at 5½ or 6%. Beyond question, the prices of bonds depend mainly upon the rate of interest.

Because interest rates were high and rising, from 1904 to 1907, the prices of bonds declined during this period. Because the rate of interest is temporarily low the prices of bonds are now rising. Both because the rate of interest will soon begin to rise again and because there is a tremendous supply of unsold bonds (many of them carried over from 1906 and 1907), the present rise in the prices of high-grade bonds is likely to be short lived and very disappointing to the many bond dealers who are confidently expecting several years of rising bond prices and prosperity.

Already we see signs of a turn in the prices of the highest grade bonds. British consols, although they rose only 5 or 6 points from their lowest prices (from about 82 to 87½) are now slowly declining again. They are now about 20 points below their high prices of a few years ago.

It is doubtful if our municipal and state bonds will sell higher, at any time, than they are now selling. A 4% basis will probably be about the minimum for the next few years. Within two years we are likely again to be on a 4½% basis for cities—and a 5 to 6% basis for the best railroad bonds. This means that our municipalities, railroads and other corporations will soon have to pay higher rates for loans. This, in turn, means higher fixed charges and increased expenditures.

Rising Prices Mean Higher Operating Costs.

Rising prices and high interest rates mean high cost of operation and production on railroads and other public service corporations and in mills and mines. By increasing the cost of living they necessitate high wages and thus, again, necessitate increased cost of production. As wages rise more slowly than prices and the cost of living, labor becomes dissatisfied, inefficient and often turbulent, during periods of rising prices. This fact increases the burdens and troubles of corporation officials and other producers and employers.

Some industries are free to recoup losses from increasing cost

of operation; others are not. In the fortunate class are most manufacturers, merchants and professional men. If in addition, they own mines, forests, land and buildings, they are doubly fortunate, for these will rise in nominal value as gold depreciates. If, besides, these owners of productive forces have their properties mortgaged at low rates of interest, they are trebly fortunate. Their debts will depreciate as the purchasing power of gold declines.

Railroads cannot, as a rule, increase rates except with the consent of commissions or legislative bodies. This practically means that they cannot recoup their losses from increasing cost of operation, until their situation becomes desperate. They suffered much from this disability in 1906 and 1907. They are likely to suffer far more in the next five years. The effects will be felt mostly by the great trunk line roads with their expensive terminals and heavy capitalization. They will be felt least by the roads in undeveloped territory. Roads that own mines or large tracts of land will benefit materially by their appreciation.

Street railways will fare even worse than will the steam roads by gold depreciation. Relatively, the street railways expend more for labor than do the steam roads. They are, therefore, hit much harder by rising wages than are the steam roads. Besides, the opportunities for economies are not so great as with the steam roads. The difficulties of raising fares are also even more difficult than in the case of steam roads. The future for the stocks of most street railways, and especially for the over-capitalized ones, is not bright. They may hold up well for a year or two longer. After that, the slow but sure process of increasing cost of operation is likely to tell adversely on the value of their stocks.

The stocks of other public service corporations—gas, water, electric light, telephone, etc., companies—will behave much as will those of street railways. The prices of the products or services of all of these corporations are fixed by law or custom. They can be raised only with great difficulty. Unless invention and cheaper cost of service can keep pace with gold depreciation the net earnings of these corporations will diminish towards, if not to, the vanishing point.

The growth of some cities will, of course, be sufficient, for several years, to overcome the increasing cost of operation. As a rule, however, the stocks of public service corporations may be expected to decline from year to year.

I will not attempt to discuss here the effects of gold depreciation upon debtors and creditors and upon the distribution of wealth. Generally speaking, debtors are benefited, and creditors injured, by a depreciating standard of value. Wealth is distributed quite differently from what it would be under a stable standard of value. This different and unjust distribution causes great dissatisfaction and unrest, which shows itself in politics, religion and industry. The indirect effects of this discontent upon security values is likely to be very great in the next five years.

Byron W. Holt.

CALL MONEY RATES AND STOCK PRICES.

By John P. Ryan.

September 11, 1908.

When the call money market on September 10 stirred slightly and rates were advanced from approximately one per cent. to what was a new high figure for several months, two and one-half per cent. there was a semblance of excitement in every office where traders foregather. It was a splendid illustration of the intimate relation between the money market and the stock market, and it was not without interest so far as the influence of money on stock prices is concerned. Speculative Wall Street is a borrower of money on a large scale, and the investment and speculative markets absorb enormous sums. Anything that tends to lessen the money supply, to increase it or to stimulate uncertainty concerning it, tends to affect the prices of stocks and other securities, which have not passed absolutely into the distinct investment class. The effect of this is not always tangible, it is not always obvious at the moment; it may appear even to be an after effect, but the influence is there nevertheless. When I speak of money, of course, I mean that substitute for money which facilitates trading—bank credits. There is, there must be, an ultimate relation between these bank credits and security prices. This is a proposition not capable of demonstration by taking the figures of one particular period, one week or month, but by scanning the market for money and securities, year in and year out. There are many other factors in stock prices, but proportionately the money market is the most effective.

Corporation securities have been well described as representing capital mobilized for the purpose of fixed investment in the instruments of production and distribution of commodities. Ultimately these securities are supposed to find their way into the hands of permanent investors, when their ability to pay dividends or interest has been demonstrated. Wall Street, the stock market, makes a business of dealing in these securities pending ultimate consumption for permanent investment. And Wall Street requires banking credit in this process. That banking credit is readily obtainable with these digesting securities as collateral, primarily because the Stock Exchange furnishes an almost instantaneous market for that collateral. Purchases of commercial paper and loans on collateral securities are two primary and principal functions of banking credit.

Without question the New York call money market is peculiarly subject to the various influences which bear upon it, but a recognition of that general fact simply makes other things more puzzling for the moment. For instance, we have seen the present advance in the market carried on almost day by day without influencing money rates a particle. When stocks advance twenty, thirty, even forty points, it would seem as if there must be such an increase in the demand for funds, that rates would inevitably advance. It is a well-known fact, however, directly applicable to that situation, that

whereas the call money market is usually sensitive, that is not the case in periods of general business inactivity. To understand that it is only necessary to realize particularly what the call money market is. It is best described as the fluctuating surplus cash of lenders, or, to put it a little differently as one authority does, "the essentially mobile surplus portion of the nation's banking credit."

It is to the call money market rather than to the market for time funds that one looks in trying to analyze the possibilities of stock prices, although one may be well aware that of all the credit used in security loans, in financial operations, nearly 65 per cent. consists of time loans. That should be obvious when one considers that investment houses and brokerage houses for good reasons keep a substantial percentage of time money on hand. Where the collateral has not a ready market, almost an instantaneous market, it is more likely to be placed in a time loan.

With regard to the relative percentage of call and time loans at one time, it is worth noting that call loans increase at times when money is very easy or very stringent. When rates are low and continuously so, borrowers are willing to borrow from day to day, because the average of such loans for a month would be considerably less than if the money was borrowed on time. On the other hand, when a stringency arises and call rates mount up quickly the lenders of money prefer to put their money out on call and actually limit their time offerings.

These are simply a few generalizations with regard to the call and time markets, but it is necessary to see the functions and reasons of and for these markets in order to show how interwoven money and stock prices are. The call money market of New York is almost a unique institution. Certainly there is no other call money market like it in existence. And it is a clear outgrowth of the way in which the Stock Exchange does business. European exchanges have one or two settlements a month. The New York Stock Exchange has been described as a market for securities on the basis of cash at one day. If you sell stocks on the exchange you must deliver them before 2.15 P. M. on the next day, unless your contract specifies definitely otherwise. That in itself tends to emphasize the needs of a call loan market and, as I said before, it is that market that gives the definite idea of the relationship with the stock market.

One word about the source of the money loaned on collateral security, which may give an idea of other influences tending to sensitize the call money market. Aside from the surplus reserves of the New York banks, and reserves of out-of-town banks held in New York, there is much private capital, and institutional and corporation money available for collateral loans. There are two elements in the loanable funds that are, and they have been proved so, more or less dangerous from the point of view of stock prices and general security. They are the country bank money and direct loans by "out-of-town" institutions. Country banks are permitted

to keep 60 per cent. of their required reserve on deposit in central reserve cities and much of that money is placed in New York banks. Naturally, the New York institution, knowing that it may have to return that money on short notice, keeps it in the form in which it is most readily available, while making it earn something in the meantime. It is loaned on call. The banking credit based on it is used for speculation. When that money is called home in the Spring or Fall the banking credits available for speculative purposes are curtailed.

More influential, or most dangerous as you please to put it, is the money or credit loaned directly in the New York market on call, for out-of-town banks. The New York bank simply places the loan. It is the agent only, receiving and holding the collateral. It does not have the money on deposit. The bank statement does not reflect the loans. The out-of-town banks may call them at a moment's notice. The New York banks have no control. If you consider that this class of loans has exceeded $400,000,000 you will realize that such a condition is actually dangerous. Speculation based on such credit is a little prearious, especially if the money be withdrawn when the local banks have their hands full. The speculative markets must have available credits, advancing prices legitimately presupposes sufficient relative credit, and once the time of legitimate relation between these available credits and prices are passed, a readjustment is logically certain.

The investor plays a part in these adjustments that is interesting, if not always perfectly apparent. When prices are in such proportion to value, and the return good from the point of view of current rates, that the investor is satisfied, he goes into the market and pays cash for securities. That releases a certain amount of banking credits. On the other hand, the investor who has purchased these securities is extremely likely to realize on them when the market has been advanced so fast and so far that a profit of a substantial amount can be secured. He sells his stock, withdraws his cash, and reversing the effect of his purchase, compels further borrowing, it being assumed that the new purchaser does so speculatively. The amount of banking credit needed at the higher figures then prevailing is obviously greater and speculative loans are increased. This merely illustrates one thing that with easy money, plenty of banking credits, with professional manipulation or with a public demand, prices can be advanced without serious danger, and in spite of the non-existence of other, what might be termed, essential factors. The advance is purely speculative. If there had been a large investment holding of stocks at the lower prices, there would be the possibility of these stocks being returned to the market, lessening the banking credits or rather increasing the demand. Or, if the public as semi-investors came into the markets at the high figures, there would be a shifting of loans, but the situation would be weaker. Every transfer of stocks in a rising market means a shifting of loans, increased demand for credit which must affect

rates ultimately. The weaker the situation in this respect becomes the nearer the period of compulsory liquidation.

Human nature and banking shrewdness cut a figure in the call money market, and incidentally, of course, in the securities markets, that must not be ignored. When money is plentiful for one reason or another the banks are anxious to loan their available funds and the resulting competition sends rates down, sometimes to absurdly low figures. When rates are getting high borrowers are in competition, and rates go higher. Lenders also get frightened and curtail credit unnecessarily, which should have an obvious speculative effect.

It may be argued that these things are general but not conclusive so far as the relation of money to stock prices is concerned. It is true, it may be said, that we are now having easy money and high prices, but we have had 100 per cent. money and a bull market. But that 100 per cent. money and a bull market was followed by a severe setback in prices. The momentum of the movement started when credits were easier, carried prices with comparative steadiness to a point where money rates would ordinarily compel liquidation. That liquidation is only postponed, if banking credit be not increased promptly and proportionately, and it requires manipulation to postpone it.

It was an old speculative axiom that it required $100,000,000 of available credit to start a bull market. That is modified now to the extent that it is said that it requires a great deal more than $100,000,000. There is plenty of evidence to show that a large amount of surplus money in New York induces a bull market. Current stock market history shows that very plainly.

Let us go back a little and summarize stock market results of a year at a time and see what the money rates and price fluctuations tell us.

Looking over the speculative situation in 1891 we note that a flurry in money in the Fall clearly induced a break in stocks. Money began to return to the banks before the end of the year, relieving the situation and bringing about an improvement in stock prices. The next year showed a comparatively good banking position until the later months of the year when the surplus reserves became depleted. During the first half of 1892 the market for securities was comparatively strong, but in the latter half weakness and reaction were in evidence. There were other influences, of course, but the money market was a primary one.

Those who have been any length in the financial district or who have followed financial affairs remember 1893 and the violent break that took place early in July. This was coincident with a poor banking situation, but in the Fall when the surplus began to increase stock prices became better also. The year 1894 was mainly remarkable for the very heavy surplus reserves of the banks, a condition somewhat similar to that existing during the present year. Business depression had, of course, helped to bring about this piling up of available credits and funds. That year other influences

UNIVERSITY OF CALIFORNIA

negatived the possibility of a big upward movement which might have been possible considering the money market. Political considerations were more or less paramount.

During the year 1895 the average of call money rates was moderate and available funds for speculative purposes comparatively large. A bull market was started which might possibly have been carried through the Fall stringency, the momentum being sufficient, but Cleveland's Venezuelan message upset all other calculations and influences. The year 1896 was a year of politics rather than anything else, but the banking credits available for speculation were small in any event. The market changed and began what might be called its ten-year period of prosperity after the election.

Low interest rates for call funds and heavy surplus reserves or surplus deposits were influences in 1897, aside from the other factors of a clearer political situation and an optimistic outlook. The next year the same situation with regard to banking credits and interest rates tended to continue the upward movement, and this was not seriously checked by the Spanish War.

When surplus reserves fell in the Fall of 1899 and interest rates shot skyward the market reflected the influence of that and other adverse conditions by a substantial setback. General prosperity throughout the country was an influence favorable, however. Although fair rates were maintained in 1900, the market was so dull that it had little significance and the first definite trend, this time upward, began in the Fall. This was continued into 1901, which is more or less memorable in Stock Exchange history and the banking situation that year from a speculative point of view was first class in every respect. The May panic was an incident due to special causes and not to the banking situation.

Careful watchers of the situation realized in 1902 that loans were expanding too quickly and that unless the situation was changed liquidation must result. The first part of the year witnessed a continued rise in stocks. Toward the latter part of the year rates for call money were excessive. The reaction in August of 1902 was due directly to the necessity of reducing loans or curtailing necessary banking credits. The year 1903 witnessed a continuance of the situation in which excessive loans figured and the result was high interest rates and a liquidating market. The year 1904 shows nominal rates for call money, substantial speculative banking credits and a bull market. The first half of 1905 showed similar conditions and a similar result until the advance was stopped in the Fall. Speculative history was made in 1906 when a bull market and a boom in other things were carried on, although loans were inflated and money rates extremely high. The aftermath, the inevitable result, was written in 1907, in panic conditions which are recent enough not to warrant retelling.

More specific details might be given showing the intimate relation between the money market and more particularly the call money market and stock prices. It might be repeated that a specific day or a specific month does not always emphasize the point,

but a review year by year must do so inevitably. Those who have studied the call money market say that it undoubtedly tends to extremes and one of the reasons is the daily settlement system. It is pointed out also that call rates usually swing from pronounced ease to excessive stringency. In other words, rates are very low or are tending to go very high. It is possible to have an extreme of 2 per cent. and 20 per cent. in a month. In fact, if the weekly rates for call funds over a period of years are studied this is shown very conclusively. Take the nine months from January to September in 1892 and you will find that in only one week of that period did call loan rates reach 6 per cent., and most of the time the rates were quoted from 1 to 2 per cent. During the latter part of the year you find the minimum rate nearer to 5 per cent. and running most of the time between 7 and 40 per cent. You will find the same condition in other years, in 1897, for example, when during the entire year the maximum for call funds recorded in only one week was 5½ per cent., and the prevailing rates during the entire twelve months from 1 to 2 per cent. The year 1899, taking the latter part of the year, shows rates running from 10 to 186 per cent., and during the period when high rates prevailed there was consistent firmness, but within a week or two in January, 1900, rates had dropped off to an average of less than 3 per cent.

Speculative effects are reflected always in the call money market, and when speculation is heavy, when prices are advancing, the strain on that market is decided, and the relation between the money market and stock prices extremely close. Prices are influenced only by speculation and speculation is financed through the call money market, so that the volume of speculation and the volumes of available banking credits need be watched in order to make trading deductions.

Although possibly not entirely relevant, the situation in the banking world here and abroad, as an influence in the speculative market and consequently of stock prices, may be worth glancing at for a moment. Banks here keep against their deposits loans on call with Stock Exchange collateral. These banks are compelled to keep a certain proportion of their deposits free and available for use on a moment's notice. The bank in Europe keeps banking paper against its demand obligations and it can sell that paper at the discount rate at any time without any undue influence on the general markets. When a bank here desires to secure cash quickly it calls loans which directly influences the stock market inasmuch as Stock Exchange collateral is involved. The half monthly settlement in stocks on the other side makes it easier to determine how much money is needed for the stock market, and if there be a surplus it goes into the bill market, so-called, where it is just as readily available as if it were placed on call loans here. It is easy to see that were the commercial paper markets here on the same kind of a basis as in Europe, the rates for call loans on Stock Exchange collateral might be more stable.

Paul M. Warburg, in a lecture a year or so ago, gave a very interesting illustration of the difference in the situation between this country and Europe. He said:

"The aggregate amount invested in trade and commerce must vary. Its grand total should be many times the amount invested in stock-exchange loans, which represent the securities carried for speculative investors. Our way of doing business may be illustrated by two adjoining reservoirs, a small one and a very large one. The small one represents the stock exchange and contains the call loans; the large one represents the general business of the country, as expressed by commerce and industry. In Europe they regulate the small reservoir by pumping water into it from the large one, or by withdrawing water from the small reservoir into the large one. In this way the outflow and inflow in the large reservoir are scarcely perceptible, and there is no difficulty in regulating the small one. With us, we do the reverse. If there is a shortage of water in the large reservoir we begin to draw on the small one, and, in order to increase the water in the large reservoir by an inch we empty the small one altogether, or, in order to decrease the amount of water in the large reservoir by an inch we fill the small one to the overflowing point. Moreover, Europe can tap a third reservoir, the additional currency issued by a central bank, with which to regulate the large reservoir if it fluctuates more than a few inches, while with us no such final reserve exists. As a consequence, fluctuations of several feet appear to be inevitable and regular occurrences with us."

John P. Ryan.

CONVERTIBLE BONDS.

By Robert W. Speir, Manager Bond Department of Knauth, Nachod & Kuhne, New York.

September 22, 1908.

The first time my attention was called to the possibilities of a Convertible Bond was in October, 1892. A friend who held some 7% bonds of the Chicago, Milwaukee & St. Paul Railway, which were about to mature on January 1, 1893, inquired about their payment. I found that they were first mortgage bonds on one of the divisions of the railroad issued thirty years before bearing 7% interest, and that they contained the option to the holder to convert them into the preferred stock of the railroad at par. Under the terms of the bond this option recurred twice a year for a period of ten days after the payment of the dividend on the stock. The last such period in the life of the bond was closing—in just four days, in fact, after which the bond would become a simple time contract with three months

to run, worth, we will say, par and accrued interest. The owner was entirely unaware of the conversion privilege thus accidentally brought to his notice, the discovery being worth about $2,000 to him on his $7,000 of bonds, as the preferred stock was selling at about 129 at the time.

This incident is cited as an illustration of the great value which the convertible feature of a bond has proved many times in the past history of railroad securities, and of the possibilities of value—beyond strict investment value—in many of the present issues. Briefly stated, a convertible bond is the absolute "promise to pay" of the issuing corporation of a definite sum of money, say $1,000, at the end of a definite term of years with interest at a definite rate of interest, 4%, 5% or 6%, as the case may be, in some cases secured by a mortgage or by the pledge of securities, in others with no definite property pledged; so far it is in no way different from the ordinary bond or debenture. Its essential characteristic is the privilege which the holder buys with the bond of converting it at his option during a term of years into the stock of the corporation at certain stated terms—as par for par in the case of the Atchison issues, $1,400 par value of bonds against $1,000 par value of stock in the case of one of the Pennsylvania issues, and $1,750 par value of bonds against $1,000 par value of stock in the case of the Union Pacific 4s. The bondholder thus holds the direct obligation of the company which necessarily ranks ahead of its stock, but is furnished, in the convertible feature, with an opportunity to share in the growth of the property, which in a prosperous and well managed corporation should be normally reflected in the quotation of its stocks.

The question naturally arises: Why should a railroad or other corporation give away so valuable a privilege? The answer is that in most cases they do not; they sell it. In other words, the Company obtains a price or a rate of interest on its new bonds which it would be unable to obtain without the conversion privilege. It makes them so much the more marketable. There have been some cases, however, where bonds have been offered to stockholders on terms so attractive as to give the right to subscribe an immediate cash market value equivalent to an extra dividend.

In the early days of American railroad financing the selling of even first mortgage 7% bonds at par was not always an easy task, and the convertible clause was sometimes called upon to make it easier. The Chicago, Milwaukee & St. Paul Railway is a conspicuous example of this method, most of its financing from 1860 to 1880 being done through the issue of convertible bonds, such as those described in the first paragraph. As recently as 1896 this company had still outstanding twelve separate convertible issues, mostly bearing 7% interest. Practically all of these early issues are now out of existence, mostly by conversion.

With the growth of the country and its railroads and an

accompanying wider market for its securities came lower rates of interest and an easier task for the railroad president to market his new bonds. The convertible clause virtually disappeared as a feature in the new issues for a period of perhaps twenty years. Apparently its use was not necessary, in order to successfully float the new issues of bonds.

At the beginning of the present century it reappeared and in 1901 and each year since several convertible issues of importance have made their appearance.

In 1901 we see the Baltimore & Ohio Railroad issuing $15,000,000 of 4% ten-year debentures convertible into common stock at par. The subsequent appreciation in the market value of this stock proved to be more than the debenture holders could withstand and all the bonds have been converted except a small remnant of $140,000 now outstanding. In this year the Union Pacific also issued $100,000,000 4% mortgage bonds, convertible into common stock at par. These, after ruling at a premium for about two years, dropped below par for about a year in the depression of 1903-1904, to recover again and rise with the stock to 137 in May, 1905, when the unconverted balance was called in for payment.

In 1902 the Pennsylvania Railroad offered its stockholders at par $50,000,000 3½% bonds convertible into stock at 140. The opening market of 103 gradually improved until it reached 112⅝ in September of the same year.

Another important issue of the same year was the Brooklyn Rapid Transit 4s, convertible into stock at par; opening at about 75, these bonds sold as high as 102½ in November, 1905. The Western Maryland Railroad issued to a syndicate $10,000,000 second mortgage 4s, convertible into stock at par. These first appeared on the market late in 1905 at 68½, reaching 76¾ in February, 1906. This issue is to be noted as the only one of the recent convertible issues which has gone into default. The industrial field is also represented in an issue by the Distillers' Securities Corporation of 5% bonds limited to $50,000,000, convertible into stock at par. The earliest quotation for these is 75 in January, 1903; in September, 1906, they sold at 91½. Only about $14,000,000 of these bonds have been issued.

In 1903 the most important issue authorized was that of the Erie, being an issue authorized at $50,000,000, of which only $10,000,000 (Series "A") were at first sold. These were 4%, convertible into common stock at 50. These first appeared on the market in December, 1904, at 95½, rising to 114¼ in the following August. $12,000,000 more of the same issue (Series "B"), convertible at 60, did not come on the market until early in 1906, at par, a price they have never reached since. In this year came two industrial issues: $15,000,000 Lackawanna Steel Co. 5% first mortgage bonds, convertible into stock at par, appeared at an opening price of 97½ in June, 1903. They sold up to 108¾ in January, 1906. The International Steam Pump Co.

authorized $3,500,000 6% debentures convertible into common stock at par. They are first quoted in January, 1904, at 98, rising to 105¾ in June, 1905.

In 1904 the most important issue was $20,000,000 Consolidated Gas Co. (of New York) 6% debentures, containing an option to convert (after July, 1907,) into stock at par. The opening quotation was 172 in June, 1904, and the highest 188¼ in November of the same year. Their fluctuations have always followed closely those of the stock.

The $3,000,000 Brooklyn Union Gas Co. 6s were quite similar to the above.

New York City real estate becomes represented in the issue by the United States Realty & Improvement Co. of $13,506,000 5% bonds, convertible into stock at par. These opened at 80½ in July, 1904, selling at 103½ in the following March.

In 1905 the Atchison road requiring $50,000,000 to provide the service to handle its share of the business which was expanding rapidly all over the country, selected the convertible bond as its instrument for the first time in its history. The bonds were 4%, running fifty years, and convertible during the first ten years into common stock at par. The first quotation, 103, appears in April, 1905, and the highest, 110¼, was reached in October, 1906. The Pennsylvania also chose this as an opportunity to bring out another issue of $100,000,000 3½% convertibles. The conversion price, however, was placed at 150, or 10 points higher than the successful loan of 1902. The first quotation was 101 in June and the highest 102⅝ was reached two months later. The Delaware & Hudson also came into the market with a refunding first mortgage issue of $10,000,000 of its leased road—the Albany & Susquehanna. The bonds authorized were 3½% and convertible into D. & H. stock at 200, and were offered to the D. & H. stockholders at par. The first quotation, 109, appears in April, 1906, rising to 118⅜ in November of the same year. The American Telephone & Telegraph Co. with a view to its future needs authorized an issue of $150,000,000 4% bonds, of which $100,000,000 were sold to a syndicate in February, 1906. These were convertible into stock at 140 and did not come on the market until February, 1907, opening at about 92½, a price which was never again reached until September, 1908. The only other issue of the year was the 5% loan of the International Paper Co., authorized at $10,000,000, convertible into preferred stock at par. They were first quoted at 95 in April, selling at 100 in the following January.

In 1906: This year again witnessed a large volume of convertible issues. The New York, New Haven & Hartford Railroad brought out an issue of $30,000,000 3½%, to be convertible into stock at 150 per share between 1911 and 1916. These were issued to the stockholders at par in January but commanded an immediate premium in the market of about 12%, reaching their highest price, 118½, in the same month.

The Delaware & Hudson appears again as a borrower, this time with its own issue of $14,000,000 4%, convertible into stock at 200, opening at 106 in June. They sold up to 112⅞ in November.

Late in the year the Western Union Telegraph Co. offered to its stockholders at 87½ $10,000,000 4%, convertible into stock at par, only a small proportion accepting the opportunity. The highest the bonds reached was 88½ and interest early in 1907.

The Westinghouse Electric & Manufacturing Co. issued $15,000,000 5% bonds convertible into stock at 200. These appeared on the market at 98, selling at the highest at 98⅞ in December.

1907: This was a year of general declines in the prices of almost all bonds, and the convertible bonds of all issues yielded to the prevalent influences, the new ones among them. In June the Norfolk & Western Railway offered its stockholders at par $13,000,000 4% bonds convertible into common stock at par. Nearly all the issue had to be taken by the underwriting syndicate, which dissolved under the unfavorable financial conditions prevailing in January, 1908, when the bonds appeared in the open market at 78, gradually appreciating in price and reaching 91 recently.

The Atchison road also made another issue of convertibles, making the rate this time 5%. The bonds sold at par in July and 102 in September, then to participate in the general decline and subsequent recovery. About the same time the Union Pacific offered its stockholders $75,000,000 4% bonds at 90, convertible into common stock at 175. These sold at 89 in July, reaching 93 in September, then to decline and recover.

In June the General Electric Co. offered its stockholders $13,000,000 5% debentures convertible between 1911 and 1917 into stock at par. These were readily subscribed, finding their market level at about 108; their highest price to date was 129 in July, 1908.

The New York, New Haven & Hartford Railroad offered to its stockholders in November the right to subscribe to $30,000,000 40-year debentures, convertible into stock at par between the year 1923 and 1948. The stringent financial conditions which prevailed are reflected in the high rate of interest which the bonds bore, 6%, as contrasted with the rate of the previous New Haven issue, 3½% in 1905, and in the fact that the conversion figure was placed at par instead of 150. Despite the panic conditions, there was a demand for these bonds at 110 for delivery "when issued." The investment demand has since carried the price up till 131½ was recently reached during the current month.

1908: This year has been marked by gradual steady improvement upon the panic conditions and prices of last fall, and has seen the successful flotation of several high-grade long-term bond issues. It is extremely significant that not one of these issues has contained the convertible feature, the railroads having been able to obtain satisfactory prices for their

Table of Principal Convertible Bond Issues for Years 1901-8.

Date of issue.	Name of Company.	Amount	Rate	Maturity.	Convertible conversion.	stock at	price.	Highest price.	*Pr ma not qu re
1901	Baltimore & Ohio R. R.....	$ 15,000,000	4%	1911	1901-11	par	103	118	
"	Union Pacific R. R.....	100,000,000	4%	1911	1901-11	par	103	137	
1902	Pennsylvania R. R.....	50,000,000	3½%	1912	1902-12	140	103	112⅝	
"	Western Maryland R. R.....	10,000,000	4%	1952	1902-52	par	68½	76¾	
"	Brooklyn Rapid Transit	33,557,000	4%	2002	1902-14	par	75	102½	
"	Distillers Securities Corp.....	13,764,000	5%	1927	1902-12	par	75	91½	
1903	International Steam Pump	3,500,000	6%	1913	1903-13	par	98	105¾	
"	Erie R. R., Series A.....	10,000,000	4%	1953	1905-15	50	95¼	114¼	
"	Lackawanna Steel	15,000,000	5%	1923	1903-15	par	97½	108¾	
1904	Consolidated Gas	20,000,000	6%	1909	1907-08	par	172	188¼	
"	Brooklyn Union Gas	3,000,000	6%	1909	1907-09	par	...	...	
"	U. S. Realty & Improvement .. .	13,506,000	5%	1924	1904-08	par	80½	103½	
1905	Atchison, Topeka & S. F. R. R..	47,714,000	4%	1955	1906-18	par	103	110¼	
"	Pennsylvania R. R.....	100,000,000	3½%	1915	1905-15	150	101	102⅝	
"	International Paper	6,000,000	5%	1935	1905-17	par	95	100	
"	Erie R. R., Series B.....	12,000,000	4%	1953	1907-17	60	100	100	
1906	Delaware & Hudson	14,000,000	4%	1916	1907-12	200	110	112⅞	
"	Albany & Susquehanna R. R....	10,000,000	3½%	1946	1906-16	200	109	118⅜	
"	N. Y., New Haven & Hart. R. R.	30,000,000	3½%	1956	1911-16	150	111	118½	
"	American Telephone & Tel....	100,000,000	4%	1936	1909-17	140	92½	92½	
"	Westinghouse Electric & Mfg..	15,000,000	5%	1931	1906-10	200	98	98⅞	
1907	Western Union Telegraph	10,000,000	4%	1936	1909-19	par	76	85	
"	General Electric	13,000,000	5%	1917	1911-17	par	108	129	
"	Norfolk & Western Railway	14,576,000	4%	1932	1907-17	par	98	98	
"	Atchison, Topeka & S. F. Ry..	26,056,000	5%	1917	1907-13	par	102	104⅛	
"	Union Pacific R. R.....	75,000,000	4%	1927	1907-17	175	89	98	
1908	N. Y., New Haven & Hart. R. R.	30,000,000	6%	1911	1908-11	99	100	101⅞	
"	Interborough Rapid Transit ...	25,000,000	6%	1948	1923-48	par	110	131½	

*September 22, 1908.

bonds, without including a convertible privilege. The Interborough-Rapid Transit Co. (New York City Subway), however, sold $25,000,000 three-year 6% notes, secured by first mortgage 45-year bonds upon its property and convertible into the same bonds at 99. These were publicly subscribed at par and have risen to a premium of about 2%.

It is impossible within the limits of this article to give all details in connection with the above issues, but as they constitute some twenty-five issues aggregating over three-quarters of a billion dollars, most of which are still outstanding, representing a class of security in which the investor had practically no opportunity to invest eight years ago, the following table is given in which it is hoped and believed that no important errors or omissions will be found. (Table on preceding page.)

Robert W. Speir.

EUROPE'S INTEREST IN AMERICAN SECURITIES.

By Charles F. Speare, Financial Editor of New York Evening Mail.

September 29, 1908.

One of the popular explanations of the recent remarkable advance in foreign exchange has been that bills were being drawn against the sale by Europe of liberal amounts of American securities. The fiscal year 1907-08 ended with a balance of trade in favor of the United States approximately of $660,000,000. Never before had this great total been achieved. It was made possible by means of a radical curtailment of purchases in Europe of luxuries and the non-essentials of comfortable living and also a reduction in demand for raw materials. Coincident with this was a forwarding movement of grain, cotton, copper and manufactured articles on a scale never before approached. It was, however, principally through economy that this immense trade balance was established.

American debts to Europe were small when the fiscal year ended. They had largely been liquidated when the 1907 panic broke and soon after were erased. For the past eight months America has been more truly a creditor nation than during the last decade of her previous history.

There are some very large offsets to every apparent favorable trade balance, so that, while it seemed evident Europe was debtor to the United States to the extent of $660,000,000, the cancellation of a considerable part of this sum was effected quietly through the exchange markets, and to the knowledge of relatively few persons; to the extent of, say, $500,000,000. I have elsewhere estimated remittances of immigrants at $225,000,-

000, tourist credits at $100,000,000, interest payments, payments on foreign enterprises in the United States, etc., at $100,000,000, and freight charges at $75,000,000. The unpaid balance remaining is $166,000,000, and it has been growing since July 1, at the rate of $20,000,000 a month; this is the debt which effort is made to prove is being met by the proceeds of stocks held in the boxes of investors in England, Holland, France, Switzerland and Germany.

Europe probably held the maximum of American securities in 1905 or 1906. All of the surplus investment countries across the Atlantic found in the United States the best bargains in stocks and the highest yields, with greatest safety, in bonds.

It was three years ago that the British investor first began to see the unscientific side of putting all of his funds into consols, which returned very little and were subject to even greater depreciation than mortgages of moderately well-to-do railroads and industrial corporations. Then too, the German began to feel the need of meeting higher living expenses and increased taxation with greater income, which his home securities did not afford. France, the home of the most scientific and persistent investor in the world, *le petit cnargne,* always conservative and inclined to government issues—issues that were guaranteed as to principal and interest even though the interest was sometimes less than 3 per cent., awakened to the belief that higher yield with similar security could be and ought to be obtained in foreign markets not then sounded. So France opened the doors of her investment houses to a few choice American securities and those of the great credit banks, which practically dictate what the little investor shall buy. The Pennsylvania Railroad, premier in America, as it is held to be in Europe, negotiated a loan of good size in France, and it was listed on the Paris Bourse. Later the New York, New Haven & Hartford sold bonds to French bankers and they were also listed there, and the Pennsylvania was subsequently favored with a second allotment of French savings. Every railroad that needed money tried to get it in France. The country was overrun with solicitors of corporations for American enterprises of all kinds and descriptions trying to thrust their hands into the well-filled "woolen stocking" of the French, and were willing to pay from 6 to 10 per cent. for a loan. Switzerland at this time was freely buying American bonds, being a ready subscriber to the numerous syndicates of that period, and finally absorbed a larger amount of securities than she could readily digest. Every country was looking for higher income and better chances of appreciation in values without too much speculation attached. What they wanted they found readily enough in the United States.

The total European investments that year (say, the early part of 1906), in American securities were probably $6,000,000,000, distributed as follows: Great Britain, $4,000,000,000; Ger-

many, $1,000,000,000; France, $200,000,000, and Switzerland, $100,000,000. The investments which produced these figures had been going on since the early seventies, with frequent dips and advances in the sum total of shares and bonds owned.

Toward the end of 1906 Europe began to be sated with "Americans." Syndicates in New York, Boston and Chicago discovered that they could not get much response from their foreign clients. They found also that they were getting back issues of new bonds which had gone under the subscription price, instead of rising to a bonus, as had been anticipated. The high money rates of that year, the still higher rates of the first half of 1907, with the disclosures of *haute finance* in America, and the European suspicion of properties controlled by a small ring of capitalists, led to persistent selling of American securities. This antedated the panic, but the panic found Europe still long large lines of good issues, which they liquidated during the troublous times of October and November.

As the winter of 1905-06 witnessed the height of favor in which American securities were held abroad, so probably the winter two years later saw the low point at which our issues were held by foreigners. It would be merely guesswork to estimate the par value of stocks and bonds sold in the two-year period described. If it amounted to 10 per cent. of the total investment by Europe in Americans it would have reached the huge sum of $600,000,000. Probably this is too high a figure to consider conservatively.

After careful investigation of the subject I am strongly of the opinion that Europe has been a considerable buyer on balance of American securities in the past six months, and that she will, within a few years, not only replace what she has sold but advance her holdings to a much higher level than in 1905-6. It is quite true that some sales of stocks have taken place. But they do not represent *fixed* investments. European speculators and those of the investing class who follow the American market closely for bargains, independent of what they yield in dividends or interest, bought on a large scale at the low level of last October and in January, 1908. Conspicuous in this respect was Holland, a nation always on the lookout for a good semi-speculative issue selling at a low market figure. For instance, the Dutch bought Steel common until they had $40,000,000 worth and were the largest holders of it outside the United States. They began to buy between 22 and 25. Recently they sold $10,000,000 worth from 40 to 45. German investments in Steel as well as in Baltimore & Ohio, Pennsylvania and Canadian Pacific, which are favorites in Germany because they are listed in Berlin and Frankfort, were quite heavy even though German banks were struggling with the highest discount rates in the history of the Reichsbank and trying to curtail credits to all except legitimate business enterprises. London bought the specialties which the houses of Morgan, the Speyers, Baring &

Co., and the joint stock banks with intimate New York relations quoted as safest and most likely to have a sharp rebound.

Now Europe believes that ultimately the United States will return to even greater prosperity than ever before. She feels though that the recovery has been too rapid. It is not understood abroad. The selling of securities, therefore, about which so much is heard represents simple profit-taking, on the idea that stocks with a six-months' advance anywhere from 25 to 40 per cent. ought to be sold as a business proposition and can most likely be repurchased at a future date at a lower average cost.

It was estimated for me by a well-informed international banker that Europe had probably sold, in the past six months, about $75,000,000 of American railroad and industrial shares which mainly represent holdings accumulated during the low-price period of 1907 and again during the winter. On the other hand, there have been purchases of new issues of bonds and notes to the extent of $250,000,000. One house is said to have drawn $140,000,000 of sterling bills of exchange to represent their sales in Europe of American securities since the first of the year. In every way it is plain that the average of European investments in our highest grade securities has been rising steadily in recent months.

Europeans are shocked from time to time by the disclosures of improper financing among corporations, and they profess to be very much alarmed over the weakness of our currency system. In this fear there is a great deal of sentiment, and undoubtedly the sum total of European investments here has been considerably reduced by the irregularities of our financiers and bankers. But, everywhere, the investor is impelled by a similar motive—high yield with safety. This he can find with greatest freedom in the United States. The British investor is thoroughly disgusted with the treatment he has received from his home investments. Not only consols, but all of the so-called trustee securities, including colonial issues, municipal bonds, the standard English rails like London & Northwestern, Midland, Great Western, and London & Southwestern, have recently sold at the lowest prices in thirty years and many have been forced to reduce dividends to a level not before witnessed by this generation of shareholders. Unfortunately there is not a great deal of improvement in sight, as the maximum of traffic has very nearly been reached, while costs are expanding even though some of the lines have been forced into combinations against which there was strong public sentiment. English investors who have paired their home railroad holdings with American shares, like Pennsylvania, New York Central, Atchison, Baltimore & Ohio, Union and Southern Pacific, have seen very striking contrasts in income and appreciation between the two groups, and in spite of their aversion to things American have had to confess that it was in this country that they secured much the best returns on their capital outlay.

Holland is very cosmopolitan in her investment choice, but her greatest investments are in the United States and Russia.

and it is easy to determine where the largest part of her future surplus will be located. She is gradually liquidating Russian bonds and investing in securities of more progressive and less autocratic countries. It is doubtful if Germany in the next year will have much of a surplus for outside investment, though here it will be a simple matter of competition which will govern the character of the investment more than patriotism. Germany will require her entire uninvested surplus for the loans, both government and municipal, that are projected and are to be put out as soon as money becomes more plentiful. But the average German investor, leastwise he who has had experience in American securities, will be as favorably inclined to a good American bond yielding 4 to 4¼ per cent. as to his own issues returning barely 4 per cent. As a general proposition, however, I should say that Germany cannot be counted on for a very large American investment for some time and the new fiscal policy which will greatly increase taxation will complicate this reckoning considerably.

Until this year France has largely confined her American investments to bonds. There have been some large blocks of United States Steel and American Sugar held by private investors; and wealthy Frenchmen in close touch with American financial affairs have possessed lines of popular shares that aggregated a respectable sum. But it has not been until this year, or since the income on American stocks of undoubted reputation became so very attractive, that the big French credit banks, who are the advisers of the "rentiers," have started a campaign of education in the better class of shares. Leading financial papers like L'Economiste Francaise, of which M. Pierre Leroy Beaulieu is editor, have been advising purchases of many of the preferred stocks of our leading railroad companies and also some of the tried-out preferred industrial shares. The Frenchman owns pactically all of his government issues and he very nearly owns all of Russia's national securities, but his own industrial and railroad shares he dislikes more and more and wants to put his investments abroad. It will be from France that the largest relative increase in American investments will come in the next five or ten years.

Finally, it may be said that sentiment as to the stability of American securities, their earning capacity and revenue-returning ability is not waning, but gaining all over the surplus-investing countries of Europe. There have probably been more Europeans in this country in the past eight months investigating American conditions, that is, inspecting our railroads and manufacturing concerns, and looking into our mines and our agricultural resources, than ever before. The general testimony of those coming for the first time has been in favor of making investments for themselves and clients as a permanent proposition. In the world-wide crisis since last October, American securities have stood up with any others and have had the

greatest amount of recovery. This fact has advertised in a more favorable light than ever before, as, behind this quick rebound, as Europeans see it, is the unlimited opportunity for production of wealth and the potentiality of resources as yet untouched. No other country save Russia, offers this opportunity for expansion, and Russia is still sleeping.

Charles F. Speare.

THE FUNCTION OF SPECULATION.

By Frank Fayant.

October 6, 1908.

The present campaign against speculation in securities and commodities is not new. It began centuries before exchanges were organized to meet the economic need for regulated speculation. Laws to restrict or prohibit making provision for the risks of the future in trade have been put periodically on the statute books of England, France, Germany, Holland and the United States. These laws have come to naught. They have either become inoperative or have been repealed. Uneconomic reformers have attempted to stamp out speculation because they believed it to be responsible for commercial depression and the low prices of investment securities, or for the low prices of wheat and other commodities, or for the high price of gold, or for extreme fluctuations in securities and commodities. All of these things were due to natural laws, and the speculation was not the cause but the product of them. And whenever speculation has been restricted these changes have become more violent and trade risks have been increased.

English Laws Against Speculation.

England's lawmakers for centuries made futile laws against speculation, attempting to check the ebb and flow of prosperity. But the "nation of shop-keepers" kept right on out-speculating her European rivals, and held her place as the greatest commercial country, until we outdid her in speculation. Five hundred years ago the speculation in herring in Yarmouth grew to such proportions that the town authorities put a ban on the speculators. The "nefarious business" stopped; so did the real trade in herring. The herring market was driven out of Yarmouth to neighboring ports, where no restrictions were placed on speculation, and their gain in commercial prestige was Yarmouth's loss. As long ago as 1610 Parliament declared that transactions in securities and commodities for delivery more than three days ahead were illegal.

Sir John Barnard's Act (1734, a short time after the bursting of the South Sea Bubble) "to prevent the infamous practice of stock-jobbing," carried this preamble: "Whereas, great inconveniences have arisen, and do daily arise, by the wicked, pernicious and destructive practice of stock-jobbing, whereby many of His Majesty's good subjects have been and are diverted from pursuing and exercising their lawful trades and vocations, to the utter ruin of themselves and their families, to the great discouragement of industry, and to the manifest detriment of trade and commerce." This law remained on the statute books for 125 years. It was a dead letter. The only purpose it ever served was an occasional refuge for welchers in put-and-call transactions, which it prohibited. Early in the last century, in a few cases, it was held by the courts that short sales were void. Parliament repealed the law in 1860 as "an unnecessary restriction on the making of contracts for the sale and transfer of public stocks and securities." Transactions in options, the privilege to put or call stocks at a stated price at a future time, are very large in the London market, and our speculators and financiers at times make a considerable use of these options, as dealing in them on the New York Stock Exchange is prohibited by the constitution of the exchange. In 1867 Parliament prohibited short sales of bank shares.

Amsterdam made one of the earliest laws against the "bears." Half a century before the panic of 1664 the Dutch city forbade the sale of securities not possessed by the seller at the time of sale. This was thirty years after the tulip craze. Havre was once the center of the world's coffee trade. In trying to eradicate evils from the speculation in the commodity the authorities drove the business to Hamburg. Twelve years ago, when the German government began its campaign against speculation, Hamburg did twice the business of London in coffee. To-day London does more business than Hamburg. Prussia, in 1836, '40 and '44, prohibited operations "for the account" in public funds and railroad shares, but these acts were repealed in 1860.

America's Futile Efforts to Restrict Speculation.

In this country the campaign against speculation began before the opening of the New York Stock Exchange. The earlier laws grew out of the unsoundness of our currency, which naturally induced speculation in its constantly changing value. Heavy speculation in "shin-plasters" was the cause of the passage of the New York act in 1812, directed chiefly against short-selling and options. Any speculator who sold short and couldn't deliver, or who sold a privilege and couldn't keep his contract, could welch under the law. An occasional hard-pressed speculator took refuge under the statute when his operations were disastrous, but the law was a dead letter, even after the organiza-

tion of the stock exchange in 1817. The law was repealed in 1858, and the repeal act legalized short-selling in these words: "No contract, written or verbal, hereafter made for the sale of any share in the stock of any incorporated company, shall be voidable because the vendor, at the time of making such contract, is not the owner of such share." The English law of 1734 against short-selling, which had occasionally been cited in our courts, was repealed two years after New York State gave the "bear" a legal standing.

The War on the Gold Room.

One of the most dramatic efforts ever made to prevent speculation was the Gold Speculation Act of 1864—which was on the statute books just fifteen days. The bill was prepared by Salmon P. Chase just before he resigned from Lincoln's Cabinet. It prohibited sales of gold unless the seller actually had the gold and delivered it the next day; it prohibited dealing in foreign exchange to be delivered more than ten days subsequently; and it prohibited trading in gold except at the place of business of the buyer or seller, thus putting a ban on the Gold Room. "The price of gold must and shall come down," said Horace Greeley. Mr. Arthur T. Hadley thus relates that illuminating incident in our financial history:

"In the year 1864 the large issue of paper currency had driven gold out of circulation and caused it to be bought and sold as a commodity. Much of it was in the hands of speculators. When its price rose more than 100 per cent. it was supposed by the public that a part of this increase was due to the operations of these speculators. All gold speculation was therefore forbidden by statute. Under the excitement of public opinion in time of war this statute was enforced to a far greater degree than could have been done in peace. The effect was precisely the opposite of what had been anticipated. Every man who was engaged in foreign trade had to provide security for being able to make gold payments in the immediate future, if called upon to do so. Being prevented from dealing with speculators, he now had to accumulate a reserve of his own. This caused an increased demand for gold at a time when it was unusually difficult to maintain an adequate supply. Under two weeks' operation of the act the price of a hundred gold dollars rose from about two hundred paper dollars to very nearly three hundred. So obvious was its evil effect that it was hurriedly repealed as a means of preventing further commercial disasters. Again, in the early part of 1866, there was a rise in the price of gold, which was attributed by public opinion to the speculators. Their machinations were defeated, not by legislation, but by the issue to the market of a part of the gold lying in the Treasury of the United States. For the moment the price of gold fell, and people rejoiced that the

plans of the speculators had been defeated. But a short time later, when the war between Prussia and Austria caused a demand for gold in Europe, there were large exports of the metal, and its price rose by natural causes. The United States was obliged to buy back, at a decided loss, a part of the gold which the Treasury had so unwisely issued. It turned out in the end that the operations of the speculators in anticipating the wants of the future would have prevented a loss to the country, and that the attempt of the Treasury to defeat those operations was attended with expense both to the government and to the mercantile community."

The frenzied speculation in gold is a blot on our financial history. But the Gold Room was a necessity. Mr. Horace White, reviewing that period of our currency, says: "During seventeen years the business of the country was regulated by the quotations of the Gold Exchange. The export trade of the country necessitated the selling of gold in advance of its delivery. A buyer of wheat or cotton for export would make his purchase according to the current price of gold, but he would not get his returns from abroad in some weeks. If the price of gold should fall meanwhile he would be a loser. So he would sell at once the gold he expected to receive later. * * * Black Friday and its evil consequences were due to the existence of a bad currency and a fluctuating standard of value. The Gold Room was at that time a necessity. Business could not be carried on without it, but it offered temptations and facilities for gambling which could not be resisted."

Germany's Costly Experiment.

During the severe commercial depression in America in the 90's a vigorous effort was made in Congress to suppress trading in grain futures. All of the proposed measures, notably the Butterworth, Hatch and Washburn bills, were aimed at the "bears," who, the wheat farmers believed, were keeping prices down by short sales. The Hatch Bill was designed "to relieve the producer of the destructive competition to which he is now subjected by the offering upon the exchanges of illimitable quantities of fiat or fictitious products by those who do not own, and have not acquired the right to the future possession of, the articles which they pretend to offer and sell." These bills were defeated only after a strenuous fight in committee rooms and on the floors of Congress. Cash wheat in Chicago declined from $1.13 in August, 1891, to 50c. in July, 1894; but the farmers blamed it all on the speculators "who sold wheat they didn't own."

But in Germany the farmers won their fight and forced the government to throttle the "bears," and now, after twelve years of failure, the government has awakened to the fact that economic laws cannot be regulated by statute. Mr. Roosevelt, mis-

informed as to the distastrous commercial experience of Germany in attempting to stop speculation, recently called attention to the German Bourse Act of 1896 as an evidence that speculation could be restricted. But Germany is now trying to undo the work of that year and regain her lost prestige.

The Baring failure in London was followed in Berlin by a decline on the Bourse. This was the incentive for anti-speculation legislation. Securities declined and banking houses failed, declared the German lawmakers, because of the evil of speculation. Then came the cry of the farmers against trading in grain futures. The big crops of '93 and '94 forced grain prices to an extremely low level. The agrarians raised the cry of "paper wheat"—it was all the fictitious wheat, not the real product of the soil, they believed that depressed the market. The Reichstag heeded the popular cry and prohibited time bargains in industrial and mining stocks, and futures in grain. The effect of the legislation has been the reverse of what was intended. Germany's trade and commerce have been crippled, price fluctuations have been greater, and the farmers have suffered. "Whenever a new crop of grain has come upon the German market since 1896 the inefficiency of the Produce Exchange has been strikingly illustrated. The trade has lost its power to absorb readily the new home supplies. As a consequence of this, prices broke away sharply, and grain was exported in unusual amounts in the fall and winter months. On the other hand, some supplies would run short toward the end of each harvest year, prices would rise, and large imports would follow." (William C. Dreher in the "Forum.")

A wave of anti-speculation legislation swept over the cotton states last winter, and the misguided but well-intentioned lawmakers of Georgia, Florida, South Carolina, Alabama, Texas, Arkansas and Mississippi put the ban on cotton futures. The two chief cotton markets, New Orleans and New York, fortunately, were left undistributed. Already the cotton trade of the South is repenting its "reform" wave. Even Mr. Roosevelt's cotton speculation investigator has endorsed the economic value of trading in futures. The speculation in cotton futures, since the restrictive laws were made in the South, is less than a third what it was before. The result is that a vast amount of money heretofore provided by the speculators in marketing the crop has been withdrawn, and the loss to the planters on the last crop is estimated in New Orleans as high as $10 a bale, or $135,000,000.

Futures, Short Sales and Margins.

The periodic outbreaks of legislation against speculation have been directed against (1) the buying and selling of commodity futures and stock privileges, (2) the short selling of stocks and commodities, and (3) trading in stocks and commodities on margin.

Futures, short sales and margins are the very framework of our whole industrial system. It is strange that in these times of high average intelligence, it is necessary to fight to protect them from the attacks of reformers.

A railroad needs a thousand new steel cars. It gives an order to a manufacturer who not only does not possess the cars, but owns neither the labor nor the materials for their construction. He goes short of the thousand cars, taking the chance that labor will not rise in price. To guard against a rise in steel he buys for future delivery from a steel maker the steel he will need. The steel maker sells this product short in the same way, and transfers his risk to the iron miner, who sells short a product still in the ground. And the railroad, the car maker, the steel maker, and the iron miner all do their business on margin. Each borrows a part of the money with which the business is conducted.

A homeseeker takes a liking to a piece of ground in a growing community. He buys an option on it from a man who owns it on margin. Later he may exercise his option, buy the plot on margin, and then give an order to a builder for a house. The builder agrees to deliver the house at a specified future time, sells it short, in fact, before he has possession of the labor and materials with which to build it. The materials may still be growing in the forest or lying untouched under ground, The builder works on margins and futures, and the homeseeker himself has the house constructed with borrowed money.

The cotton manufacturer receives an order for goods to be delivered several months hence. He goes short. He immediately orders the yarn from the spinner, who goes short, and in turn protects himself by buying raw cotton for future delivery, not from the planter, but from the speculator, who sells it short. The risk is shifted from the manufacturer to the spinner to the speculator. The speculator's risk in this particular transaction may be shifted a hundred times from one speculator to another. The cotton planter, likewise, may protect himself against a decline by selling his crop short months ahead of the picking, or, if he sells his crop when it is picked, the merchant who buys it can immediately transfer his risk by selling it on one of the exchanges. All the price-risks of the cotton trade are thus shifted to the speculative market, and the facility with which this market bears the burden depends solely on its broadness. The planter, the merchant, the speculator, the spinner and the manufacturer all trade on margin—although oftentimes the borrowed funds are called credit.

The Speculator's Service to Trade.

The speculator, whether he knows it or not, plays a very important part in modern commerce. He is a part of the machine, as much so as the banker, in the work of putting the

products of the producer in the hands of the consumer. Speculation has become a highly specialized business. There are bad speculators and there are evils in speculation; it is equally truth that there are bad bankers and that there are evils in banking. To crush out the banks because of wildcat banking would be as economically absurd as to prohibit speculation because of the foolhardy exploits of the plungers. Banking and speculation will cease to be functions of our industrial life only when Socialism governs and there are no private property rights.

Electric communication and steam transportation in the nineteenth century rapidly increased speculation because they brought the markets of the world together. Speculation is now concerned with buying or selling for the purpose of making a profit at a future time; in the old days the chief speculation consisted in buying in one market with the anticipation of selling at a profit in a distant market. Then the traders assumed their own risks; to-day the risks of trade are largely assumed by a special class, the speculators.

The invaluable service the speculator performs in modern commerce is well illustrated in the grain trade. Before the days of continuous grain speculation the farmer, the wheat merchant and the miller assumed heavy risks. The merchant bartered with the farmer for his wheat, and shipped it to a distant market with the hope of selling it at a profit. He gave the farmer as little as he would take, in order to insure himself against the risk of loss in the distant market. The price depended on the relative skill of the bargainers. The miller, similarly, bought his wheat as cheap as he could, because he had to take the risk of a falling market while his mill was grinding the wheat into flour. This was a highly speculative business. Now these business risks are shouldered by the speculator. The farmer knows every day what wheat is worth the world over, whether in Chicago, Liverpool or Odessa. In the great open markets, where the crop of the world is handled, the price is made continuously, for cash wheat and for future delivery, by hardheaded speculators who match their brains against each other in forecasting prices by years of study of all the factors that make prices.

When an elevator company buys wheat in the country from the farmer it can immediately insure itself against loss by selling the same amount in the pit. When the wheat is sold the "hedge" is bought back in the pit. "Hedging" is selling in the pit for May, July, September or December delivery against wheat actually owned. Before pit speculation made "hedging" possible (a four-word telegram covers the operation) the dealer, in bartering with the farmer, offered him from five to ten cents a bushel under the ruling price in the central markets, less the cost of transportation; now he can safely trade on a cent margin. When a miller buys wheat to turn into flour he can insure himself against loss by immediately selling short in the pit,

covering the trade when he markets his flour. Or a miller can buy wheat futures against sales of flour for future delivery. He is thus enabled to conduct his business of flour-making while the speculator carries the risk of the fluctuating prices. The speculative markets thus assume the risks of the world's grain trade. A Liverpool merchant orders a cargo of wheat from San Francisco and then protects himself against a decline in the market, while the ship is on the seas, by selling an equal quantity by cable at New York in the month his cargo is due at Liverpool. If wheat declines in the interval he covers his short sale in New York, and his profit in the pit makes up for his loss on the actual wheat. These operations tend to increase the price paid the farmer for his wheat, to decrease the cost of bread to the consumer, and to minimize the business risks of all those engaged in the distribution of the product. During the ninety days that the country's harvest is marketed the future markets perform a valuable service. It would be impossible to sell the crop in the old way without depressing prices. The flood of grain would put the price down, as it does now in Germany. The elevators could not sell the wheat to millers and exporters as fast as it was received. But by selling futures in the pit against the actual grain they market the crop without upsetting prices.

The Necessity of Speculation in Stocks.

Speculation does not perform the same service in the stock market that it does in the commodity markets, but the service is analogous. Without the speculation in railroads and industrials, giving a big, broad market for billions of dollars of securities, the annual raising of hundreds of millions of dollars of new capital for American corporation enterprises would be an extremely hazardous operation. A railroad company can raise $100,000,000 to build an extension to the Coast, a telephone company can raise $50,000,000 to extend its lines, or a manufacturing company can raise $25,000,000 to build new works, through the speculative market. The speculators take the burden, with the help of the banks, and gradually shift it to investors. New issues are carried in this way until they become seasoned. Sugar was once the great speculative football; to-day it is practically out of the speculative market. Lackawanna was once a stock market skyrocket, fluctuating between $40 and $100; to-day, in the neighborhood of $500 a share, it is "out of the Street," a seasoned investment issue. A remarkable case of this kind is the preferred stock of the Steel Corporation. The $360,000,000 of this issue, only eight years after this great mass of stock was thrown onto the speculative market, has virtually been absorbed by investors. The speculators are still carrying a good share of the common stock, but the fact that the corporation has more than 110,000 shareholders shows how widely it has been distributed. The big speculative market, a daily register of the world's

opinion of the value of the Steel shares, through good times and bad, is the machine that has distributed the ownership of the giant corporation among 110,000 people. The greater the speculative clientele of the stock market, the greater the facility for raising new capital for corporate enterprises.

Short sales and margin trading in stocks are attacked by the reformers as fictitious business, and they point to the fact that more shares of certain companies are traded in during a few days than there are in the floating supply. An unprejudiced study of speculation must show that short-selling is a very essential part of the machinery of a continuous market. The right to buy cheap and sell dear is the inalienable right of every man, and it matters little which transaction is made first. If securities or commodities are selling at absurdly high prices it is surely the right of a conservative judge of values to sell them short and buy them back at a profit when they decline. In times of speculative excitement the "bears" prevent prices going to the skies, as prices do in markets where there is no short-selling; while in panics the "bears," by their covering, help to save the markets from utter collapse. The short-seller (much maligned because of the unscrupulous methods employed by some "bears," but no more unscrupulous than those of some "bulls") is absolutely necessary in a speculative market. Land booms would be less disastrous if there were an opportunity for short sales.

Margin speculation is only a part of the universal credit system, the leaven of all trade. It shifts a part of the burden, but scarcely any of the risk, to the banks. Slim margins in speculation are as unwise as over-extended credits in business. The most reasonable criticism of present-day speculation is that brokers and banks supply too much of the capital used in speculation, and speculators too little. But the limiting of speculation to those who could supply all the money required in transactions would be as unsound as to rule that no man could build a house who could not pay for it out of his own pocket.

The cry of the reformers that Stock Exchange and Produce Exchange transactions are largely fictitious because sales and purchases are balanced against each other in the Clearing House is as foolish as to say that the banking business is fictitious because the New York Clearing House banks expedite their transactions daily by average cash payments of less than $4 for every $100 of business. The ownership of a hundred bales of cotton may change hands a hundred times before they reach the spinner, and the market records accordingly sales of 10,000 bales, but all of these sales are as genuine as the original sale of the product by the planter, or the final purchase by the spinner.

That there are evils in speculation no one denies, but these evils are largely the inherent evils of trade. It is as impossible

to eradicate these evils by legislation as it is to prevent a man from buying an automobile he cannot afford. Some day the world may reach the Utopian state where there will be no competition and no bartering—then there will be no speculation.

Frank Fayant.

Bibliography.

More extended studies of the function of speculation may be found in the writings of economic authorities. The following may be cited: "Economics," Arthur T. Hadley; "The Principles of Economics," E. R. A. Seligman; "Money and Banking," Horace White; "Wheat Fields and Markets of the World," Rollin E. Smith; "Principles of Banking," Charles A. Conant; "Speculation on the Stock and Produce Exchanges of the United States," Henry Crosby Emery; "The Regulation of the Stock Exchange," Charles A. Conant, Atlantic Monthly, September, 1908; "The Utility of Speculation in Modern Commerce," Albert Clark Stevens, Political Science Quarterly, 1892; "Legislation Against Futures," Henry Crosby Emery, Political Science Quarterly, 1895; "The Attack on Stock Exchange Operations," Commercial and Financial Chronicle, March 7, 1908; "Effect of German Bourse Law on Speculation," William C. Dreher, Forum, September, 1908; "Should Speculation Be Regulated by Law?" Henry Crosby Emery, Journal of Accountancy, April, 1908; "Speculation," Arthur T. Hadley, Cyclopedia of Political Science; "Remarks of John R. Dos Passos Before the Senate Judiciary Committee, February 26, 1892, in Opposition to the Anti-Option Bill."

F. F.

MINES ON THE NEW YORK CURB.

By George E. Vigouroux, Mining Editor of the New York Commercial.

October 13, 1908.

The growing popularity of mining stocks as represented by the constant additions made to the list traded in on the New York Curb shows at the present time a total of some 174 mining companies whose stocks are with different degrees of activity dealt in on that market. Of this total an average of 70 stocks are quoted daily, transactions running all the way from 100,000 to 250,000 shares a day. Of this amount 60 per cent. of the business is actual trading, the balance representing manipulation. From 150 to 300 brokers are in daily attendance during the trading hours. Each group of stocks, as if by common consent, occupies each day the same relative position on this open market it received the first day it was placed on the curb. The brokers maintain an organization of their own, and all contribute toward

its maintenance. The honor rule is the sole binding obligation that exists for the enforcement of contracts, and it is surprising how thoroughly this responsibility is respected and appreciated by those doing business on that market.

Of all the stocks quoted an effort has been made to secure for the purposes of this letter a review of such stocks that, judged by a jury of competent mining engineers, would pass as mines, giving each one a percentage for ore in sight, management, financial conditions, activity and standing in the community. Hence, out of a total of 160 properties there are 21 real mines traded in on the curb, from which number 7 are below the standard set by the other 14. This letter will deal with the facts, earnings and full statistical data concerned with the best 14.

Boston Cons. Copper & Gold Mining Co.

Handicapped by a series of unexpected and, to an extent, unpreventable, delays, the plans of the Boston Consolidated Co. for 1908 have shown but a slight advance over 1907. As soon as the company began milling its porphyry ores in the early part of the year they found that the concentrates contained more iron than their contract allowed with the A. S. & R. smelter at Garfield. They have recently worked under this capping and are now in a neutral ore. The mineral in the concentrates has been increased from month to month until the plant is now showing a return in keeping with what was planned in its construction. The low-grade ore measures up to 50,000,000 tons, one of the largest low-grade deposits in the world. The mill with its six units will, when running with the entire battery, handle 5,000 tons per day. During the month of September the company produced 964,000 pounds of copper. From the first of the year the output will be at the rate of 1,500,000 pounds of copper per month. Costs last year were at the rate of almost 9 cents for each pound of copper produced.

In addition to its low-grade ore the company has a big sulphide ore body. The porphyry is mined by the open-cut system, the ore being handled by large shovels and dumped into cars for transportation to the mill. The cost of handling this ore is figured at 18 cents a ton. There are 10 miles of underground workings. The ore averaging 2.10 copper, several ounces in silver and from $1 to $4 in gold per ton.

The bonds, bearing 7 per cent. interest, are convertible into stock at $15 a share at the holder's option.

British Columbia Copper Co., Ltd.

Between the shortage of the coke supply and the labor troubles causing the company's smelter to operate intermittently, the British Columbia Copper Co. has had an uneven path cut

out for it during the past four years. During the past 12 months they have installed a number of betterments and improvements that are likely to mean cheaper costs for the operating end of the venture.

The company has a furnace capacity of 2,100 tons per day, of which they are now using 1,900 tons per day, no effort being made to push production with the present copper market. The furnaces are now producing 1,100,000 pounds of copper per month, at what is probably a small profit, as the company's ores are low-grade, though they contain some gold and silver. The company has its own converter. While no definite ore reserves are given, the tonnage is known to be several years ahead.

Butte Coalition Mining Co.

All the mining claims at Butte in litigation between the Amalgamated Copper Co. and F. Aug. Heinze furnished the basis for the organization of the Butte Coalition Mining Co., representing a joint ownership of all that was in contest between these people, and the result has been the operation of a group of mines second to none at that camp. At the present time the company is producing in excess of 2,000,000 pounds of copper per month, which at a profit of 4 cents a pound, is showing earnings of $1,000,000 a year on the 1,000,000 shares of capital stock. Dividends to date aggregate $2,450,000, six disbursements having been made since 1906. Dividends ceased during the fall of 1907, but their resumption is looked for at any time from now on. The company started business with $4,000,000 cash in its treasury, and almost all of it is intact.

The Minnie Healy, Rarus, Red Metal Co. and a host of fractional interests were taken up by the company. The properties have miles of underground workings. All the ore is treated at the Washoe smelter at Anaconda, representing custom work for the Amalgamated Copper Co., which owns the Anaconda.

Cumberland-Ely Mining Co.

Developed to a depth of 450 feet the Cumberland-Ely Mining Co. has opened up a flat porphyry ore deposit measuring 3,800,000 tons of ore that will average from 3 to 4 per cent. copper, of which almost 2,000,000 tons of ore have been blocked out on three sides. All of this work has been completed in the Veteran mine of the company's holdings at Ely, of which it owns 498 acres in various groups in the camp. The equipment for hoisting this ore on a large scale is unlimited, and every other phase of the company's operations are conducted upon an engineering basis equal to any mine in the country.

The company owns a half interest in the Steptoe smelter, which will be more fully described in the Nevada Consolidated Co. analysis. This equipment work had just been completed after 16 months' work, so that the full readjustment of the machines for the maximum recovery of copper has still to un-

dergo some slight changes. For August, Cumberland-Ely produced 600,000 pounds of copper, and for September the rate was hardly any better because of fuel shortage. Before the end of the year, however, this company's copper output is figured on a basis of 10,000,000 pounds a year. Costs are estimated at 9 cents a pound.

Florence Goldfield Mining Co.

Exact and official information regarding the Florence Goldfield Mining Co.'s present status is not procurable, as the management has never encouraged the open publicity of its affairs, due in a measure to an effort to prevent their competitors at Goldfield from obtaining facts of value about its business as well as to prevent the use of any information that might be used against them in the possible legal difficulties that have always been gossip at that camp.

A major portion of its estate has been developed by leasers, almost all of whom have made big money, and a good percentage of whom are still in the active pursuit of their leases before the expiration of the time limit set for them. None of the workings are below 300 feet.

The company has blocked out ore valued at $8,000,000, and has erected a 100-ton mill, reports concerning the efficacy of which are contradictory. Most of the company's income to date comes from the shipment of some high-grade ore as well as its share of the royalties received from leasers' shipments. The Engineers' lease on the Florence furnishes an illustration of what this ground can do, yielding $700,000 in less than three months' time, and still working. Dividends to date aggregate $315,000.

Giroux Consolidated Mines Co.

With the ownership of 237 acres of land in Mexico, and over 1,000 acres at Ely, Nev., the Giroux Consolidated Mines Co. became eligible to a classification among the big mines of the curb only through its 4,000,000-ton ore body of low-grade ore. The company has suffered from bad management, poor financial policy and even some unbelievable mistakes in mechanical construction. While practically the first mine to be developed at Ely, it has allowed its rivals to out-distance it. The company claims now to have $500,000 in cash in its treasury, as well as $500,000 worth of bonds and 70,000 shares of stock. Last year the company issued $1,500,000 worth of bonds bearing six per cent. interest, convertible into stock at $5 after March 1, 1910. Company has the right to redeem after 1913 at 105 and interest.

Their main shaft, the Alpha, is down 1,215 feet, and has opened up a high-grade oxidized body of ore running above 6 per cent. copper. The other portions of the property contain the low-grade porphyry, 4,000,000 tons of ore already referred to, assaying between two and three per cent. copper. The un-

derground development work aggregates 25,000 feet. They also have a 600-ton mill and 250-ton furnace at the mines. The mill has never been able to run for lack of water, but the management claim at the present time that the Alpha is making 100,000 gallons a day, and that this water, taken in connection with the supply from the other four shafts, will in the aggregate furnish them with 200,000 gallons a day.

The Mexican portions of the property have been handicapped by a lack of sulphide ore, necessitating heavy treatment and freight charges for ore that they have sent out.

Goldfield Consolidated Mines Co.

Expert talent that can be relied upon is of the unanimous opinion that the properties contained in the Goldfield Consolidated Mines Co. of Goldfield, Nev., represents one of the richest high-grade gold ore zones on the American continent. The company's Mohawk mine from the 350-foot level to the 600-foot level, shows its big vein to average $125 a ton, with the pay streak of 18 inches giving averages of $280 a ton. The width of this vein, while it varies continually, has been shown at times to be 65 feet wide, though not all of its contents is ore.

The company has during the past 15 months been building a large mill capable to treat 600 tons a day, which is 85 per cent. completed and from which the earnings are placed at $12,000 a day, figuring the treatment of 600 tons a day at a profit of $20 a ton on ore that will average $27 a ton. The ore in sight at the present time figures up $30,000,000 net. In addition to the Mohawk the company's Combination mill on the Combination mine, a 20-stamp affair, has been netting $70,000 a month for some time, keeping the company in good shape, and enabling it to carry all its development work without impairing its treasury. After paying out something like $650,000 for its mill it will have $800,000 in the treasury at the beginning of 1909. In addition to these properties the company has the Red Top, Jumbo, Goldfield and Laguna mines, all of which show substantial bodies of low-grade ores. The bottoms of all the mines are in ore, so the further development is bound to elaborate on the present showings.

To date the company has paid two dividends amounting to $704,034, and the company's directors have intimated officially that quarterly distributions of 30 cents a share will begin in the early part of 1909. If the company chooses to send its high-grade ore to the mill much more elaborate returns will be shown. The ore in sight now figures up to $9 net for every share of stock outstanding.

Greene Cananea Copper Co.

For almost a year the present management of the Greene Cananea Copper Co. have been renovating the entire furnace

equipment installed several years ago by the Greene Consolidated Copper Co. at Cananea. These improvements have cost several millions of dollars, but were absolutely necessary, as the company under its former equipment was in no shape to compete with the low-cost copper producers. The present smelter plant contains 8 furnaces of a capacity of 400 tons each, which when all are in blast will give the company an output of 7,000,000 pounds of copper per month. At present, owing to the low copper market, the output varies from 3,500,000 to 4,000,000 pounds per month. This copper is being produced at a cost of 9 cents a pound, as compared to 13 cents a pound, the cost prior to the present improvements. Power is secured from oil fuel which will give them a saving estimated at $350,000 a year. The concentrating mill has a capacity of 4,000 tons per day. No estimate of the ore reserves have been made, though they are considered as being several years ahead.

The Greene Consolidated Copper Co. during the seven years of its existence, paid out $6,137,000 in dividends, though no earning basis can be established from these figures, as the company was constantly increasing its capitalization.

La Rose Consolidated Mines Co.

After being developed to the point of being universally regarded as Cobalt's biggest mine, the La Rose property of the La Rose Consolidated Mines Co., lay idle for 8 months because of internal disagreements. Six months ago local people who control the Nipissing Co., closed a deal for the property in conjunction with other adjoining properties. Since then activity has been resumed and the company placed on a shipping basis. Before the consolidation the La Rose mine in its short period of activity produced 2,675,000 ounces of silver valued at $1,204,000. Since the merger last May the company has produced 1,034,000 ounces of silver valued at $420,000. Quarterly dividends of 3 per cent. have been commenced, the first one aggregating $168,750, being declared in October.

The company's claim for special recognition lays in its development of the main La Rose vein, which shows in sight 6,000 tons of ore, measuring up 4,800,000 ounces of silver, worth at present market prices $2,017,000, with probable ore reserves of 8,000,000 ounces in sight. None of these figures take in the possibilities of the unexplored territory, of which only a small part of their 310 acres has been opened up. The silver contents of the ores are running from 3,000 to 5,000 ounces per ton, and the average cost of extraction at from 6 to 7 cents an ounce.

Miami Copper Co.

Opening up a 7,000,000-ton ore body within 18 months gives the Miami Copper Co. the record for being one of the quickest-developed copper mines in this country. The company has run

into a huge lense of ore over 500 feet thick that on its topmost portion assays 4 per cent. copper, while toward its lower extremity it shows a 2.70 per cent. rock. From the 150-foot level down to the 670-foot level this big copper deposit has been opened up by various levels, and the company has already begun the sinking of a new four-compartment shaft 2,500 feet away from this main ore body. The company is at least 18 months away from dividends, as the first unit of its mill, calling for a 1,000-ton plant, will not be ready for work till January, 1910, and the second unit of 1,000 tons six months later. This indicates that by the month of June, 1910, the possibility of the distribution of earnings will come up for consideration. Once started, however, this mill should be earning at the rate of $1.50 per share a year on the 1,000-ton mill on a 14-cent copper market, allowing a recovery of 50 pounds of copper to the ton.

Mines Co. of America.

The gross production of the Creston Colorado mines of the Mines Co. of America since 1903 aggregate $7,100,000, which has yielded a profit of $3,280,444, of which the stockholders have received in dividends the sum of $2,655,000. The earnings for August show bullion produced of $115,000, at an expense of $72,000, leaving net $43,899 for the month.

The company's Creston mine is developed by an 1,100-foot shaft, from which levels have been driven at regular intervals on the vein. The Colorado Mine is developed to a depth of 700 feet. The values are represented half in silver and half in gold. The ore at present is yielding $15 per ton. The equipment includes a complete 30-stamp mill and auxiliary concentrating outfit, together with an up-to-date surface layout and three tramways.

While the stock pays 2 per cent. monthly dividends, its quotation shows but infrequent changes, and owing to its narrow market the stock has never been popular. The ore reserves are not known. Two years ago the company also distributed 60,000 shares of stock of the Dolores Co. to its stockholders at a then market valuation of $10 a share, which amount has not been included in cash dividends paid to date.

Nevada Consolidated Copper Co.

The tonnage in sight in the Nevada Consolidated Copper Co. is figured at 14,000,000 tons by J. Parke Channing, a reputable engineer. The ore is low-grade, averaging 2.30 per cent. copper. The ore is mined in one section of the property by steam shovels at a cost of 40 cents a ton, and in another section of the property by the underground caving system. The ore is hauled to McGill, where the Steptoe smelter is located. The acreage measures 490 acres.

The Steptoe smelter, just completed after 16 months' work

at an outlay of $5,000,000, is employing 1,000 men. The concentrating mill of this plant, beginning October 15, will be divided into three units of a capacity of 1,350 tons each. Later it is hoped that each unit will work up to 1,500 tons of ore per day. Each unit is subdivided into two sections. Beginning October 15 the three units will be handling 4,000 tons of ore per day. The fourth unit is now under construction, and will be completed on April 1, 1909. The smelter proper contains 16 McDougall roasters, the blast furnaces having a capacity of 1,200 tons per day, and the three reverbatories with a capacity of 900 tons per day. The converters have a capacity of 85 tons of blister copper per day. The powerhouse cost $800,000 to complete. Water is supplied from distant ranches.

The Nevada Consolidated Copper Co. in August produced 800,000 pounds of copper. No positive information is yet at hand showing cost of production, though it is placed below nine cents. The company also owns, in conjunction with the Cumberland-Ely Co., the Ely Northern Railroad, connecting with the Southern Pacific 70 miles distant.

The Nevada Consolidated Co. this year issued $3,000,000 worth of 6 per cent. bonds, due April 1, 1918, convertible into stock at $10 per share any time before April 1, 1913.

Nipissing Mines Co.

On gross smelter returns of $3,810,000, secured from an output of less than 25,000 tons of ore, the Nipissing Mines Co. has paid in the past two years dividends aggregating $2,040,000, making ten regular disbursements of 3 per cent. each and two extra dividends of 2 per cent. each. The silver contents of these ores run from 500 ounces to 4,000 ounces of silver per ton, requiring but a limited tonnage of ore to rapidly accumulate substantial earnings at a very small cost for operating expenses. At the present time the company has cash on hand and bullion in transit totaling $977,000, as compared to a like account of $987,000 a year ago.

The company's total holdings at Cobalt exceed 800 acres, of which about one-third has been prospected, which signifies at that camp that the surface has been carefully gone over to ascertain the probability of silver seams being present in the rock. To date over 100 veins have been discovered on this property, of which number twenty have proven profitable, and at least half a dozen bonanzas. The better known of the veins being Nos. 26, 49, 96, 27 and both the Meyer and Kendall veins. The ore in sight at present measures up $1,000,000.

The ownership of the properties is vested in a Canadian company known as the Nipissing Mining Co., all the stock of which is held by the American company, the Nipissing Mines Co.

Tonopah Mining Co.

The present scale of mining development as it now prevails in Nevada dates from the discovery of the claims now belonging to the Tonopah Mining Co. in 1901. Since then Nevada has teemed with prospectors and the State is rapidly regaining its lost laurels of gold and silver supremacy. The history of the Tonopah Mining Co.'s development reads almost like a fairy tale. It has in four years paid out $3,700,000 in dividends, carried on a vast development campaign and erected an $800,000 mill without ever calling upon its shareholders for assistance. In the second year of its work it paid off a preferred issue of stock of $300,000. Its stock, which was put on the market at $1 a share in 1901, two years ago sold up to over $20 a share.

The company's 100-stamp mill at Miller's is now handling at the rate of 150,000 tons of ore a year, netting the company a profit of from $12 to $14 a ton. The ore being put through the mill has averaged a trifle over $24 a ton, and the extraction is put at 90 per cent. Mining and milling costs are given at $10.90 a ton. The values running two-thirds silver to one-third gold. The company owns equities in the Jim Butler Mining Co. and several other industrial companies, as well as controlling the Tonopah Railroad.

The company's Mizpah Claim has been developed to a depth of 1,250 feet, but below the 600-foot level, where a dacite intrusion cuts the formation, very little commercial ore has been opened up. The shaft is being sent to depth to cut the dacite. The ore in sight last May footed up 450,000 tons of ore, valued at $8,400,000. The cash balance on hand is in excess of $500,000.

George E. Vigouroux.

SPECULATION.

Its Place in Economics—Speculation vs. Gambling—The Moral Aspect of Speculation—Should Speculation be Regulated by Law?

By Howard Schenck Mott, associated with Malcom & Coombe, and on the staff of Harper's Weekly.

October 22, 1908.

Its Place in Economics.

According to the Standard Dictionary, economics is the "science that treats of the development of material resources, or of the production, preservation and distribution of wealth, and of the methods of living well, for the State, the family and the individual." Pure economics is the "science of value or exchange."

What place has speculation in staple commodities and stocks in such a science? The general term "economics" treats of the development of material resources. Development is a big, broad word. It signifies growth, progress, evolution from lower to higher forms. It means organization and efficiency. Every science must be inductive first and deductive afterwards. Speculation arises from many causes, and organized speculative markets or exchanges follow because of the existence of speculation. In other words, the exchanges do not create speculation, but speculation creates the exchanges. It may be added that, as speculation performs an important function in industrial society, the exchanges have arisen solely because they perform that function most efficiently.

Until comparatively recent years, economists found little or no office for speculation in their conceptions of the production, preservation and distribution of wealth. Mill, for example, does not relate speculation to his study of production and exchange. But of late years organized speculation has assumed such considerable proportions as finally, by inductive methods of reasoning, to give it its rightful place in economic science. The best thought of the day now considers no theory of value or exchange complete which fails to accord to speculation its usefulness to society. Hadley is of the opinion that "The time which elapses between the rendering of labor and the utilization of the products of labor is now so long that the work of the speculator has far greater importance than it did a generation ago." Emery states that "Both the writer and the reformer must reckon more than they have yet done with the fact that speculation in the last half century has developed as a natural economic institution in response to the new conditions of industry and commerce. It is the result of steam transportation and the telegraph on the one hand, and of vast industrial undertakings on the other." Speculation in this connection means that which occurs on the exchanges, and does not refer specifically to the speculation that is inherent in the risks of trade. But the very meat of the matter will be found in Seager's statements in connection with the theory of value and exchange, that "in industrial society, making valuations is a social process," and that, "socially speaking, the values of goods are determined by their marginal utilities * * * to consumers as a whole."

This social process of making valuations has been necessary ever since men became in any sense dependent upon one another—in other words, since the beginnings of organized society. As long as men desire to exchange the things they do not want for the things they do want, there must be methods of making exchanges of goods. From bartering one kind of goods for another, the industrial world evolved various kinds of money as measures of value, which greatly simplified, expedited and made more equitable exchanges of goods, thereby increasing men's social relations with one another. Out of the benefit of ex-

changing what a man does not want for what he does want arose the advantage of a common market-place where every buyer can buy from the cheapest seller and every seller can sell to the highest buyer, making a competition of buyers and sellers resulting in greater simplicity, expedition and equity. The obvious reason for the desire to obtain simplicity, expedition and equity in exchanging goods is the self-interest which impels every man to try to lessen his risk. It follows, as a matter of logic, that the exchanges to-day are the market-places which have grown up in response to the need felt by the community of lessening the risks ordinarily involved in the mere ownership and exchange of goods or property.

As industrial society developed, in between the producer and the consumer there arose a class called "traders," willing to assume the risks that both the producer and the consumer desire to avoid. From the beginning, both the producer and the consumer at times have looked upon the trader as an excrescence upon society—as having no really useful function. In medieval times high prices for foodstuffs were thought to be the result of conspiracies among merchants or dealers, and to-day the farmer in our Southern States persuades himself that the frequent low price of cotton is the result of "bear" operations on the exchanges. Of course, both views are wrong, because it is the changing value of these staple articles, due to fluctuations in supply and demand, that creates the speculation in them, and the speculation in them tends to minimize fluctuations in prices. Even now the Socialist entertains the medieval conception of the function of the trader, the Socialistic view being that differences in value arising from differences in time, as, for example, wheat in May and wheat in September, are artificial.

According to the commercial theory of value, however—the theory that is the result of human experience, of the evolution of industrial society—the trader has an all-important place in distribution. He it is who assumes the risks that would otherwise have to be borne by the producer and the consumer, and the purely speculative trader in any community assumes the risks that would have to be borne by the more conservative of the trading class. The speculative trader always stands ready to buy or sell for a small profit. He will buy when prices are low on the chance that future prices will be higher, thus increasing present demand; and he will sell when prices are high in expectation that future prices will be lower, thus increasing present supply. The speculator, therefore, becomes an equalizer of prices. It should follow, also, as speculative trading grows in volume and its methods become simpler, more expeditious and more equitable, that the extent of fluctuations in prices should diminish. Suppose we examine some facts to see whether the extent of fluctuations actually does decrease under the circumstances stated. According to the Annual Report of the Chicago Board of Trade for 1907, the highest and lowest prices of wheat

at Chicago for forty-three years and the per cent. of fluctuation from the highest prices were as follows:

Year.	Low.	High.	Per cent.
1865	85	1 55	45.1
1866	78	2 03	61.5
1867	1 55	2 85	45.6
1868	1 04½	2 20	52.5
1869	76½	2 47	69
1870	73¼	1 31½	44.7
1871	99½	1 32	24.6
1872	1 01	1 61	37.3
1873	89	1 46	39
1874	81½	1 28	36.3
1875	83¼	1 30½	36.2
1876	83	1 26¾	34.5
1877	1 01½	1 76½	42.5
1878	77	1 14	32.5
1879	81⅝	1 33½	36.2
1880	86½	1 32	35.2
1881	95⅜	1 43¼	33.4
1882	91⅛	1 40	34.9
1883	90	1 13½	20.7
1884	69	96	28.1
1885	73⅜	91¾	20
1886	69⅜	84¾	18.3
1887	66⅝	94¾	29.7
1888	71⅛	2 00	64.4
1889	75½	1 08	30.6
1890	74¼	1 08¼	31.4
1891	84¾	1 16	26.9
1892	69¼	91¾	24.5
1893	54¼	85	39.7
1894	50⅜	63¾	21
1895	48⅞	81½	40
1896	53	94⅜	45.7
1897	66½	1 06	37.2
1898	62	1 85	66.5
1899	64	79½	19.5
1900	61½	87½	29.8
1901	63⅛	79½	20.7
1902	67½	95	28.9
1903	70¼	93	24.7
1904	81¼	1 22	33.6
1905	77⅞	1 24	37.1
1906	69⅛	94¾	26.8
1907	71	1 22	41.8

Dividing the forty-three years into three periods, it will be found that from 1865 to 1880 the extreme fluctuation was less

than 30 per cent. only once; from 1881 to 1895 it was less than 30 per cent. in eight out of fifteen years, and from 1896 to 1907 it was less than 30 per cent. in six out of twelve years. In the first period the annual fluctuation was 40 per cent. or over seven times; in the second period, twice, and in the third period, three times. In 1898 and in 1904 and 1905 the extent of the fluctuation was due partly to the necessity of supplying armies in the field during the Spanish-American and Russo-Japanese wars.

Similar general conclusions will be found to follow a statistical study of prices on all exchanges, with the modifications and amendments which conditions in each case make necessary. There is not space to go into these statistics here.

Varying conditions of supply and demand must still cause fluctuations. The only purpose of the above table is to show that speculative trading tends to minimize fluctuations and equalize prices, as nearly as the speculator can forecast supply and demand. Prior to the establishment of the Chicago Board of Trade, the miller would pay the farmer for his wheat, say, on an average ten cents per bushel less than if he did not have to allow for the risk of fluctuation in price before he marketed his flour. To-day he avoids practically all risks by a "hedging" operation on the Board of Trade, and his allowance for risk of fluctuation need not exceed one cent per bushel. The risks of the farmer, the miller and the consumer have all been shifted to the speculative traders on the Chicago Board of Trade. The equalizing of prices and the shifting of risks to a class in the community especially adapted to assume risks are the two chief functions of any speculative market in which society at large is concerned. If the operation of the law of supply and demand could be done away with the speculative trader might be spared; but in the meantime the service of the speculator to society is incalculable. The evolution of industrial ociety works out its own laws sternly regardless of Socialistic or other theories of what they ought to be.

Speculation vs. Gambling.

Perhaps no question in connection with speculation gives rise to more confusion of thinking than does that of the distinction between speculation and gambling. In both cases there is an assumption of risk. Consequently some attempt has been made to argue that speculation differs from gambling through entailing a larger degree of judgment and a smaller degree of chance. Such a distinction will not stand the test of analysis. In gambling, pure and simple, as in the matching of coins between two parties, the chances in a large number of operations are 50 per cent. against each party. On the other hand, bad judgment in speculation might easily make the chances of loss greater than 50 per cent. The intent and purpose of the risk assumed is the basis of Hadley's distinction. He holds that insurance is a wager, justified by the benefits it confers; but even

insurance has evils, one of which is an increase in carelessness, negligence and arson, resulting in social waste. Statistics show that the losses of property by fire have increased with the growth of insurance. Legitimate speculation, he says, "involves anticipation of the needs of the market." This is absolutely true, and so far as it goes, it is a defense of speculation on sound economic grounds and good grounds of public policy. In a decision handed down on May 8, 1905, in the Chicago Board of Trade case, the Supreme Court of the United States, in an opinion written by Justice Holmes, held: "Speculation by competent men is the self-adjustment of society to the probable. Its value is well known as a means of avoiding or mitigating catastrophes, equalizing prices and providing for periods of want."

But the most illuminating and wholly satisfactory distinction is made by Emery. "Whatever the intention of the speculator may be, what he actually does is to buy and sell goods. In every transaction on an exchange the speculator incurs the duties and acquires the rights of a holder of property. He may not handle the goods himself, or he may pass to another his agreement to receive, but the nature of the transaction is the same. . . . Gambling is a transaction in which one party pays over a sum of money from his own wealth because of the occurrence of a chance event. Speculation is a transaction in which one acquires the right to a certain property (not specifically designated perhaps) and gains or loses for himself the difference between the value of the property at the time of sale and its value at the time of purchase. In gambling, one party must lose just what the other wins. In speculation, this is not necessarily so. . . . The charge is made against speculation, that it is like gambling because it is unproductive, and consists in the transfer of money from one pocket to another. The charge is misleading, if not false. Speculation does not directly produce wealth, but there is a real increase or decrease in the value of property due to outside causes, and this gain or loss is shared by the speculators. . . . Both (gambling and speculation) depend on uncertainties, but whereas gambling consists in placing money on artificially-created risks of some fortuitous event, speculation consists in assuming the inevitable economic risks of changes in value."

The inevitable economic risks of changes in value! Those are the risks involved in the mere ownership of any kind of property, whether it be a house, a horse, a plow, a table or a pound of sugar. They are borne or assumed daily in every department of life. "Speculation does not directly produce wealth." No, but it does preserve and distribute wealth. Is the production of wealth the only activity in which men may legitimately engage in order to serve society well? If this be true, all the forms of commerce are pernicious because they serve only to distribute wealth.

The Moral Aspect of Speculation.

If speculation performs a real and indispensable service to society, as it unquestionably does, it is not and cannot be immoral, *per se*. The only tenable ground for criticism against it must consist of the methods employed on the exchanges. The nature and the history of sales for future delivery in commodities and short sales in stocks have been so abundantly explained of late that it hardly seems necessary to consider them at length. Both operations "anticipate the needs of the market," and they are absolutely imperative and wholly desirable features of any free competitive market. Without them the market would lose most of its social usefulness in the matters of equalizing prices and shifting risks. Without them, in fact, the market would not be a market at all in any normal modern sense, because its fluctuations would be as wide as in medieval times, and the progress made in the elimination of fraud and unfair bargaining, through the course of generations, would come to naught.

"Trading for differences" is the *bete noir* of the reformers, but it differs in nature from ordinary commercial transactions not at all. When a man buys a piece of real estate and has an opportunity to sell at a profit the following week, there is nothing morally wrong about his availing of the opportunity. Neither would there be if the opportunity presented itself the day following the purchase or within an hour or five minutes of the purchase. A spinner may contract to deliver cloth of a stated quality on a specified date. Before that date he may enjoy an opportunity to "cover" his sale for future delivery by purchase from another spinner at a price advantageous to himself, feeling confident that by the date of his future contract he may be able to dispose of the purchased cloth at a higher price, and meantime he has "hedged" against any possible interruption of his ability to manufacture cloth that might arise from a strike of his employees or other cause. He may even sell at a profit before the maturity of his future contract the cloth he has purchased. No matter how frequent any of these transactions may be there is and can be, under the present commercial organization of society, nothing morally wrong about them. On the exchanges these trading purchases and sales may occur once a minute, yet their nature remains precisely the same as the ordinary commercial transactions described. Moreover, the oftener a pound of cotton, a bushel of wheat or a share of stock changes hands on an exchange the broader the market; and a broad market is the essential purpose of an exchange. In this respect of a broad market, commercial transactions in commodities outside of the exchanges simply have not reached the stage of modern efficiency that transactions on the exchange have reached.

In this view of the matter, even the "floor trader" on the

Stock Exchange, who trades for one-eighth of a point profit or loss, has ample justification. Whether or not a man should engage in this kind of trading must be a matter for individual determination, according to his temperament and capabilities. Likewise must be decided the question of the amount of margins. Small margins are undesirable because they unnecessarily increase the risk of loss. They are, however, unwise rather than immoral. The whole question of the moral aspect of speculation is narrowed down to an elimination of fraud and unfair dealings, which both the law and the rules of the exchanges already prohibit, so far as sober reason has been able to reach these evils. Further than this the question of the methods of trading on the exchanges is one of wisdom and policy on the part of brokers and their customers, and is hardly a moral question at all.

Should Speculation be Regulated by Law?

This phase of the problem of speculation is involved in all that has already been referred to. The fact that the ignorant and incompetent speculator suffers from his own bad judgment or unwise methods is not a sufficient ground on which to appeal for the intervention of the state. Ignorance, incompetency, bad judgment and unwise methods bring just as certain punishment in every form of commercial transactions outside the exchanges as on them. The influence of the competent man, not only through his own transactions, but through his influence on others, is as beneficial to the community as to himself and his friends. To quote again from the Supreme Court decision already referred to: "It is true that the success of the strong induces imitation by the weak, and that incompetent persons bring themselves to ruin by undertaking to speculate in their turn. But legislatures and courts generally have recognized that the natural evolutions of a complex society are to be touched only with a very cautious hand, and that such coarse attempts at a remedy for the waste incident to every social function as a simple prohibition and laws to stop its being are harmful and vain."

To regulate speculation by law would, in fact, be to limit freedom of commercial contracts. It would be ineffective legislation, because it could not be enforced; its only results would be a temporary return to the inefficient methods of trading which characterized medieval times and an increase in fraud and unfair dealings, throwing the whole commercial fabric into confuson. The only safe remedies for such evils as still exist in the speculative markets will consist in the methods that may be devised by the exchanges themselves to increase their efficiency. If the exchanges fail to remedy real evils, they will lose custom. The motive of self-interest, which governs all the economic activities of men, will prove to be an adequate incentive.

Howard Schenck Mott.

THE HISTORY OF PRICES.

By Arthur Selwyn-Brown, E.M., M.A., B.Sc., Etc.

October 27, 1908.

Speculation is based upon the science of values. Values, like all scientific problems, can only be reliably determined by "ample and accurate information" regarding the present and past. The future is only interpretable through experience. The values of to-morrow can only be gauged by a study of the values of yesterday and to-day combined with a variable factor joining the psychic factors of the moment of evaluation with the concomitant factors of progressive evolution and socialization. Prices, or values expressed in money, through social evolution appear to progressively increase when viewed over long periods of time. It is proposed in this article to briefly review the history of prices of a series of years with the view of exhibiting the comparatively gradual evolutionary processes of evaluation of commodities as shown by tables of prices of articles of general consumption and to indicate the ability of the price-making processes to adequately adjust themselves at all times to the needs of progressive civilization.

It is only comparatively recently that economists have recognized the value of systematically investigating the history of prices. Some excellent essays dealings with this subject have been published during the last half century, but a complete history of prices has never been written.

The important position as a foodstuff held by wheat makes it an excellent indicator of the fluctuations of values. Better records, also, have been kept of wheat prices throughout the ages than of any other commodity. In table I. is shown the variations in wheat prices over a period of 2,500 years. This table gives the average prices of wheat from the year 600 B. C. to 1908. The prices from 1401 to date are those of the London markets.

Table I.

Average Prices of Wheat for 2508 Years.

Period.	Price per ton.
B. C. 600	£1.1.6
300	1.5.0
200	1.6.0
50	1.7.0
A. D. 50—300	1.7.6
301—500	1.8.0
501—800	1.8.6
801—1307	1.9.0
1401—1500	1.8.6

Table I. (Continued.)

Period.	Price per ton.
1501—1600	1.16.0
1601—1650	2.4.6
1651—1700	2.18.0
1701—1750	3.12.0
1751—1800	6.0.0
1801—1850	12.0.0
1851—1880	13.5.0
1881—1889	9.5.0
1890—1899	6.9.6
1900—1908	7.0.3

The figures in Table I., it will be noticed, show that the average price of wheat rose very gradually between the years 600 B. C. and 1500 A. D. During this period the increase in the population of the civilized world increased very slowly. The processes of socialization, or the civilizing influences, were not then very active.

No great price movement took place until the middle of the 16th century. The political unrest in Eastern Europe culminating in the conquest of Constantinople by the Turks instigated political and commercial changes which had far-reaching effects upon the political and financial development of the world.

Before the Turkish conquest of the "Gate to the East," the Oriental trade was controlled exclusively by the Venetians. Their monopoly was, of course, exceedingly profitable, and was envied by the other European nations. When the Turks cut off the trade the princes of Europe all endeavored to discover new routes with the view of restoring it with profit to themselves. Prince Henry of Portugal was one of the most able of the princes of the time and he strenuously advocated the searching for a sea route south of Africa. The results of his efforts were successful. In 1598, Vasco Da Gama, one of his assistants, sailed around the Cape of Good Hope and visited the principal towns on the Malabar coast of India.

This success of the Portuguese stimulated the ambitions of the Spaniards, who were promised title by the Bull of Demarcation of Pope Alexander VI., to all the discoveries they might make to the westward of a line drawn north and south through the Atlantic Ocean 100 leagues west of the Azores. This resulted in the discovery of America. The Portuguese and Spaniards not being very skillful in commerce, the carrying and distributing trades in Europe were developed by the Dutch.

The great commercial activities of the 16th and 17th centuries are reflected in the increase in wheat prices. Following the increase in prices and the good times they indicate there was a considerable increase in the population of the civilized world. The new trades which were established in the new countries that were being opened up by the Portuguese and

Spaniards necessitated improved commercial methods and credit facilities. These in turn required corresponding increases in the metallic money reserves which were met by importations from America. In the period between 1500 and 1700 there was a very considerable increase in commodity prices. The successive increments in prices indicated prosperity which in turn was followed by an increased population and the civilization of large numbers of previously uncivilized people. These processes still continue and profoundly influence the demand for goods and their prices.

Demand usually controls supply, and supply is usually adapted to demand. Demand and value are so intimately related that changes in one affect the other. Consequently the history of prices should indicate changes in man's wants as well as of his activities. In early historical times man's wants were few and easily satisfied. Each man usually raised his own food and weaved the materials for his own apparel. To-day, of course, our wants are manifold and require the fullest resources of our complex civilization to attend to them. Contrasts between the prices of articles in general use in early times—say, in Roman times—with those of similar articles marketed to-day may be usefully employed to indicate our advancement in socialization, or, as it may be broadly termed, civilization.

One of the earliest lists of prices surviving Roman times is that of the Emperor Diocletian issued in an imperial decree in A. D. 303 and fixing prices of commodities for the whole Roman Empire. Table II. is compiled from that decree.

Table II.

Diocletian's Prices for Roman Empire A. D. 303.*

Wine.	Per pint.
Falernian	30c.
Ordinary	20c.
Rustic	8c.
Vinegar	6c.
Beer	4c.
Olive oil	40c.

Meat	Per lb.
Beef	8c.
Mutton	8c.
Lamb	12c.
Pork	12c.
Ham	20c.
Fish	10c.

* Expressed in American Equivalents.

Table II. (Continued.)

Game.	Each.
Ducks	60c.
Hens	90c.
Goose	1.50

Clothing.	
Socks	6c.
Breeches	30c.
Cloak	60c.
Shoes	2.00

According to the Dugdale MSS. in the Ashmolean Museum, Oxford, the stock on a farm in Warwickshire, England, was valued and recorded on September 12, 1290. From this record Table III. was compiled.

Table III.

Farm Products in Warwickshire, 1290.

	Each £ s. d.
11 Oxen	9.0.0
3 Riding horses	1.6.8
3 Carts	6.8
2 Tame deer	1.8
2 Boars	3.0
5 Sows	2.6
28 Hogs, not full grown	1.6
18 Weaned pigs	.5
15 Sucking pigs	.3
21 Ducks	.1
20 Bacon hogs	3.4
18 Silver spoons	.10

The prices given in this table are representative of those ruling in the country districts in England at that time. Those in London were about 50 per cent. higher. It will be seen on contrasting the prices in Table III, with those in Table II wherever possible, as for instance, those of poultry and meat, that little, or no, advance was made during a period of nearly 1,000 years. Table I. shows there was also in that time practically no change in the price of wheat. The world went very slow during that period and there was little, or no, material advancement in human wants. It was essentially a period of contemplation. Men watched the intellectual combats between the philosophers of the Neo-Platonic schools and the bishops of the church and saw the church victorious. In the history of philosophy this period is very important. It embraces the whole of what is called the Religious Period and a part of the Middle Ages.

Forces were now gathering strength which were to become active in advancing prices several centuries later. While they were being developed, however, men's attention was directed to intellectual and spiritual matters. Pessimism was almost universally prevalent and the worldly desires of the race remaining unchanged, prices ran along in their old grooves as is shown in the table.

The influences of population on prices are suggested when it is recognized that desire determines supply and supply is correlated to value and price. In the process of socialization, suggestion, invention and imitation are the most active factors. An idea flashes into the mind, or is invented. When novel and interesting it is frequently communicated to others and acts on them by suggestion. The action, or desire, stimulated will vary according to the class and number of people who adopt the suggestion. If the desire is for a certain article of commerce, the intensity of the desire, or the number of calls for it, will be a measure of any consequent fluctuation in price. The production and distribution of commodities are controlled by desires, which are themselves responsive to the alternative and successive fits of optimism and pessimism experienced by mankind, and by the other factors of social progress. Just as socialization tends either toward progress or decay, so desires correspondingly advance or decline in rhythmic sequence.

Table IV.

Population, 14 B. C.

Italy	6,000,000
Spain	6,000,000
Greece	3,000,000
Gaul	3,400,000
Other countries	4,600,000
Europe	23,000,000
Asia	19,500,000
Africa	11,500,000
World	54,000,000

Malthus in 1803 was the first to demonstrate the fact that population has at all times tended to outgrow substance. When living under perfectly happy and virtuous conditions a community is naturally constrained to increase. While the means of subsistence increases in arithmetical progression the population tends to increase in geometrical ratio. Self restraint, emigration, starvation, vice, and other degenerative influences are the regulators of population and they all powerfully influence prices.

The writings of Malthus inspired Darwin's biological researches which led him to the discovery of the law of organic reproduction. Expressed in popular terms the law is as follows: There is an innate tendency of all organic life to increase until neighbors

press upon the limit of food supply or production causing starvation and the consequent elimination of the weak and less fit members.

Table V.

Population of World 1480—1908.

	1480.	1580.	1680.
England	3,700,000	4,600,000	5,532,000
France	12,600,000	14,300,000	18,800,000
Prussia	800,000	1,000,000	1,400,000
Russia	2,100,000	4,300,000	12,600,000
Austria	9,500,000	16,500,000	14,000,000
Italy	9,200,000	10,400,000	11,500,000
Spain	8,800,000	8,150,000	9,200,000
United States	.....	.....	.....
Australasia	.....	.....	.....
India	.....	.....	.....
China	.....	.....	.....
Japan	.....	.....	.....

	1780.	1880.	1908.
England	9,561,000	35,004,000	44,000,000
France	25,100,000	37,400,000	39,000,000
Prussia	5,460,000	45,260,000	61,000,000
Russia	26,800,000	84,440,000	120,000,000
Austria	20,200,000	37,830,000	50,000,000
Italy	12,800,000	28,900,000	34,000,000
Spain	9,960,000	16,290,000	21,000,000
United States	3,500,000	50,155,783	87,000,000
Australasia	.....	.....	6,000,000
India	.....	.....	300,000,000
China	.....	.....	410,000,000
Japan	.....	.....	52,000,000

Population statistics constitute not merely biological studies showing the growth of the race, but the continuation and development of social institutions. They also, as was indicated above, measure the degrees of happiness and prosperity of the people of different periods; because in times of stress and turmoil few marriages are consummated and births are reduced, whereas in times of general well-being the contrary is true. Times when high prices are universal are invariably times of happiness and prosperity.

Comparisons of Tables IV. and V. with Table I. will indicate the influence of population on the prices of wheat, and incidentally will plainly show the course of civilization.

The opening up of both North and South America and Australasia to European emigrants has powerfully influenced prices in

recent years. The emigrants are engaged in developing some of the richest portions of the earth and are creating a stupendous commerce which will not only greatly advance their own new countries, but which will prove very beneficial to Europe and powerfully influence prices the world over.

An English statistician named Newmarch, when writing for the "Economist," London, devised a unique method of showing the variations in commodity prices. Adopting the average price of each important article sold in London in any year taken as a basis of comparison, in the specific case referred to, the prices of 22 articles sold in London in 1845-1850—the prices in following years were reduced, without loading to offset adverse factors that were liable to influence simple averages. The averages in 1845-1850 were taken as 100 and the prices of subsequent years were expressed as percentages of the initial prices. The sum of such percentages in each year forms the index number for that year. As 22 articles were selected the basic index number for all is 2,200. The value of such a method for popularly demonstrating price variations was immediately appreciated and this method, variously modified is now universally employed by economists and statisticians.

Index numbers have been published at frequent intervals by the "Economist" and Sauerbeck for English prices, Laspeyres, Paasche, Conrad, Kral, Soetbeer and Heinz, for German prices, D'Avenel, Palgrave and Falkner for French prices, Dun's Review, Bradstreet's Review and Falkner for American prices and by other authorities in other countries. Table VI., compiled from Mr. Sauerbeck's valuable papers on English prices in the proceedings of the Royal Statistical Society, London, gives representative index numbers covering the years 1846-1907. In view of the equalizing effects of the electric telegraphs and cables and modern commercial methods, as well as the great extent of International commerce, Table VI. covering London market values may be taken as a typical barometer of the world's price variations during the period covered.

In this brief sketch of the history of prices it has only been possible to lightly refer to a few important epochs in such history, notwithstanding that the accompanying tables contain many extraordinary statistics calling for comment. All references to the important influences the inventions of steam, electricity and chemical and manufacturing processes on prices have been suppressed. It is hoped, however, that sufficient has been said to indicate that prices are as variable as human desires and reflect those desires. They are not constrained by any hard and narrow economic law.

Regarding the future, it may be said there is no possibility of a check to the general advancement of prices. The prices of specific articles may vary spasmodically; but mankind is destined to progress more rapidly in the future than in the past, and the hordes of Asia are likely to be soon civilized. Such progress and advancement must in the future, as in the past, become reflected in demand and prices—prices must continue to advance.

TABLE VI.

SAUERBECK'S INDEX NUMBERS AND LONDON FINANCIAL STATISTICS.

Year.	Vegetable Food (Corn, etc.)	Animal Food (Meat, etc.)	Sugar, Coffee, and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.	Avg. Price of Consols.	Avg. Bank of England Rate.
1846	106	81	98	95	92	77	86	85	89	97.5	95¾	3¼
1847	129	88	87	105	94	78	86	86	95	98.1	87⅛	5¼
1848	92	83	69	84	78	64	77	73	78	97.8	85½	3¾
1849	79	71	77	76	77	67	75	73	74	98.2	92½	3
1850	74	67	87	75	77	78	80	78	77	98.7	96½	2½
1851	73	68	84	74	75	75	79	76	75	99.9	97⅛	3
1852	80	69	75	75	80	78	84	81	78	99.9	99⅜	2
1853	100	82	87	91	105	87	101	97	95	101.2	97¾	3½
1854	120	87	85	101	115	88	109	104	102	101.1	91⅞	5
1855	120	87	89	101	109	84	109	101	101	100.7	90¼	4¾
1856	109	88	97	99	110	89	109	102	101	101.0	93⅛	5¾
1857	105	89	119	102	108	92	119	107	105	101.5	91⅞	6¾
1858	87	83	97	88	96	84	102	94	91	101.0	96⅞	3¼
1859	85	85	102	89	98	88	107	98	94	102.0	95⅛	2¾
1860	99	91	107	98	97	90	111	100	99	101.4	94	4¼
1861	102	91	96	97	91	92	109	99	98	99.9	91½	5¼
1862	98	86	98	94	91	123	106	107	101	100.9	93	2½
1863	87	85	99	89	93	149	101	115	103	101.1	92⅝	4½
1864	79	89	106	88	96	162	98	119	105	100.9	90⅛	7½
1865	84	97	97	91	91	134	97	108	101	100.3	89½	4¾
1866	95	96	94	95	95	130	99	107	102	100.5	88	7

TABLE VI—Continued

Year.	Vegetable Food (Corn, etc.)	Animal Food (Meat, etc.)	Sugar, Coffee and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.	Avg. Price of Consols.	Avg. Bank of England Rate.
1867	115	89	94	101	87	110	100	100	100	99.7	93	2 1/8
1868	113	88	96	100	85	106	102	99	99	99.6	93 7/8	2 1/4
1869	91	96	98	94	89	109	100	100	98	99.6	92 7/8	3 1/4
1870	88	98	95	93	89	106	99	99	96	99.6	92 1/2	3 1/8
1871	94	100	100	98	93	103	105	101	100	99.7	92 3/4	2 7/8
1872	101	101	104	102	127	114	108	115	109	99.2	92 1/2	4 1/8
1873	106	109	106	107	141	103	106	114	111	97.4	92 1/2	4 3/4
1874	105	103	105	104	116	92	96	100	102	95.8	92 1/2	3 3/4
1875	93	108	100	100	101	88	92	93	96	93.3	93 3/4	3 1/4
1876	92	108	98	99	90	85	95	91	95	86.7	95	2 5/8
1877	100	101	103	101	84	85	94	89	94	90.2	95 3/4	2 7/8
1878	95	101	90	96	74	78	88	81	87	86.4	95 3-16	3 3/4
1879	87	94	87	90	73	74	85	78	83	84.2	97 1/2	2 3/8
1880	89	101	88	94	79	81	89	84	88	85.9	98 3/8	2 3/4
1881	84	101	84	91	77	77	86	80	85	85.0	100	3 1/2
1882	84	104	76	89	79	73	85	80	84	84.9	100 1/2	4 1/8
1883	82	103	77	89	76	70	84	77	82	83.1	101 3-16	3 9-16
1884	71	97	63	79	68	68	81	73	76	83.3	101	3
1885	68	88	63	74	66	65	76	70	72	79.9	99 1/4	3
1886	65	87	60	72	67	63	69	67	69	73.3	101 3/4	3 3-10
1887	64	79	67	70	69	65	67	67	68	70.4	101	3 3-10
1888	67	82	65	72	78	64	67	69	70	70.4	101	3 3-10
1889	65	86	75	75	75	70	68	70	72	70.2	98	3 6-10

TABLE VI—Continued

Year.	Vegetable Food (Corn, etc.)	Animal Food (Meat, etc.)	Sugar, Coffee and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.	Avg. Price of Consols.	Avg. Bank of England Rate.
1890	65	82	70	73	80	66	69	71	72	78.4	96½	4¼
1891	75	81	71	77	76	59	69	68	72	74.1	95¾	3 3-10
1892	65	84	69	73	71	57	67	65	68	65.4	96¾	2½
1893	59	85	75	72	68	59	68	65	68	58.6	98½	3 1-10
1894	55	80	65	66	65	53	64	60	63	47.6	101	2 1-10
1895	54	78	62	64	62	52	65	60	62	49.1	106¼	2
1896	53	78	59	62	63	54	63	60	61	50.5	111	2½
1897	60	79	52	65	66	51	62	59	62	45.3	112¼	2 6-10
1898	67	77	51	68	70	51	63	61	64	44.3	111	3¼
1899	60	79	53	65	92	58	65	70	68	45.1	107	3¼
1900	62	85	54	69	108	66	71	80	75	46.4	99½	4
1901	62	85	46	67	89	60	71	72	70	44.7	94	3¾
1902	63	87	41	67	82	61	71	71	69	39.6	94½	3 3-10
1903	62	84	44	66	82	66	69	72	69	40.7	90¾	3¾
1904	63	83	50	68	81	71	67	72	70	43.4	88¼	3 3-10
1905	63	87	52	69	87	72	68	75	72	45.7	89¾	3
1906	62	89	46	69	101	80	74	83	77	50.7	88¼	4¼
1907	69	88	48	72	107	77	78	86	88	49.6	84	4 9-10

In the above table the first nine columns represent the Sauerbeck Index numbers. The remaining columns are compiled from London financial statistics.

Arthur Selwyn-Brown.

COPPER.

By Frank Fayant.

October 29, 1908.

The year 1908 marks a new high record in American copper exports—a record that is not likely to be surpassed for several years to come. But it also marks the smallest domestic copper consumption in eight years, very nearly the smallest since the Amalgamated Copper Company was floated; and the first time in the history of American copper mining that production has shown a decline in two successive years. These salient facts show on one hand the disastrous effects of the panic of 1907 on the copper manufacturing industry, and on the other the dependence of our copper-mining industry on the European market. Without the active European demand for our copper, that started a heavy export movement in the month of the bank panic and the collapse of our domestic trade, American copper mining would have been paralyzed for months, and metal prices would have sunk to a point where not one American mine in a hundred could have been operated at a profit.

Our home market takes care of our iron; it takes care of our coal; it takes care of our wheat and corn—but the prosperity of the cotton planter and the copper miner is to a large extent dependent on foreign consumers, and any attempt to divorce these two productive industries from the European markets must inevitably lead to disaster. Some day we will probably consume all our copper at home, as we now do our iron and coal; and at some more distant day we may consume nearly all our cotton as we now do our wheat and corn—but now we must find foreign buyers for our surplus copper and cotton. Our copper position, in its broad aspects, is shown in these figures (in millions of pounds):

American Copper Trade for Ten Years.

	Production.	Imports.	Exports.	Consumption.
1908.....	880,*	190,*	672,*	380,*
1907.....	883,	267,	516,	496,
1906.....	935,	234,	465,	710,
1905.....	886,	204,	538,	610,
1904.....	821,	180,	558,	480,
1903.....	714,	148,	312,	540,
1902.....	662,	173,	368,	502,
1901.....	596,	138,	206,	395,
1900.....	602,	85,	340,	372,
1899.....	587,	72,	269,	363,
Totals	7,566,	1,691,	4,244,	4,848,
Percentage of supplies			45.84%	52.37%

*Estimated.

In this ten-year period we have had (combining production and imports—the latter mostly our border-American production in Mexico and Canada) 9,257,000,000 pounds of copper to market. We have used at home 4,848,000,000 pounds (52.37%) and have sold abroad 4,244,000,000 pounds (45.84%), leaving surplus supplies of 1.8%, or 165,000,000 pounds, which, added to the 105,000,000 pounds in supplies at the beginning of the period, makes 270,000,000 pounds estimated surplus at the end of 1908. More than half of these supplies, it is to be noted, are stocks of copper at the smelters or in transit to the refineries, and, therefore, are not directly available supplies. We have been using at home, as these figures show, a trifle more than half the copper brought into our markets, and we have had to depend on foreign buyers for the disposal of the other half.

On two notable occasions in this ten-year period we have been carried off our feet by the idea that we could dictate copper prices to Europe, and on both occasions we have seen our market go to pieces with the rapid accumulation of unsold stocks. When the Standard Oil copper coterie attempted to keep up the price of copper after the flotation of Amalgamated, defying the laws of supply and demand, it invited the disaster of 1901-2, with enormous accumulations of unsold metal, and a break to 11 cents. Foreign consumers rescued us by heavy purchases, running up to 558,000,000 pounds in 1904, bringing our surplus supplies down to 12,000,000 pounds, the lowest since 1900. Again, in 1906-7 we put prices to 26 cents, with more disastrous results. The price of the metal was cut in two and unsold stocks increased 200,000,000 pounds. The very instant our market collapsed, Europe doubled her American purchases, taking more copper in the six months following the panic than in the entire previous twelve months. As a result of these unprecedented sales abroad our exports this year will run up to 672,000,000 pounds, or more copper than we put into the market altogether in the year of Amalgamated's birth.

The story of our export trade to Europe and Asia in the past five years is told in this table:

American Monthly Exports of Copper to Europe and Asia (in Tons).

	1908.	1907.	1906.	1905.	1904.
January	32,944	17,039	15,307	21,245	29,085
February ...	24,653	9,174	15,801	17,508	17,073
March	21,620	13,432	16,433	21,073	22,852
April	31,753	17,363	16,330	24,121	13,983
May	22,640	9,038	19,260	23,758	14,772
June	29,749	16,470	18,634	22,096	16,279
July	17,715	14,770	18,309	18,478	19,480
August	25,906	13,458	20,433	22,692	24,906
September ..	19,378	17,157	14,119	19,755	20,569
October		29,161	17,528	17,784	26,585
November ..	74,000*	34,087	18,841	14,195	22,294
December ..		37,685	14,885	18,158	19,533

Exports—					
Tons	300,000*	228,836	205,460	239,863	247,421
Pounds	672,000,000*	512,000,000	460,000,000	536,000,000	553,000,000
Imports.	190,000,000*	268,000,000	225,000,000	210,000,000	181,000,000
Net exp.	482,000,000*	244,000,000	235,000,000	326,000,000	372,000,000
Percentage of U. S. production ..	55%*	29%	25%	36%	46%

* Estimated.

To give a broad view of our copper trade during the past ten years, a compilation has been made based on the private estimates of a leading international trade authority. The figures do not always agree with those made by various government statisticians, but they may be taken as a fairly trustworthy estimate of yearly results. They show graphically the accumulation of stocks with high prices, and the depletion of stocks with low prices. It is of particular interest to note that while domestic consumption and sales abroad have moved sharply up and down, production has steadily increased except in the past two years. (Table on page 146.)

Europe's record purchases of American copper this year, in a period of world-wide trade reaction, have been a mystery to many observers, and some critics have carelessly intimated that stocks are accumulating to a dangerous size, as they did in 1887-9, when the Secretan Syndicate accumulated nearly 400,000,000 pounds in its disastrous attempt to make the world's copper prices. But Europe, while she is undoubtedly buying more copper than her current needs, because of the very attractive level of prices in this country, is not buying extravagantly. European consumption has heavily increased this year, and the copper manufacturers in England and on the Continent are merely increasing depleted stocks in the natural course of trade. It is to be remembered that when the American crash came the visible supply in Europe was less than 30,000,000 pounds, or less than a week's production of the world's mines. Since then Europe's visible supply has increased to 120,000,000 pounds, or a little more than three weeks' world's production.

Europe's copper imports from the United States for the first nine months of 1908 (with one month's German imports estimated) are (in tons):

	1908 (9 mos.)	Increase.
Germany	112,000	33,100
England	47,400	23,800
France	38,400	15,500
Italy, Austria and Russia	21,400	8,400
Total	219,200	80,800

These six European countries bought 491,000,000 pounds of our copper in nine months, an increase of 180,000,000 pounds over last

American Copper Supplies (Millions of Pounds) Since the Amalgamated Was Formed.

	1908.	1907.	1906.	1905.	1904.	1903.	1902.	1901.	1900.	1899.
Domestic production	880*	883	935	886	821	714	662	596	602	587
Imports	190*	267	234	204	180	148	173	138	85	72
Total supplies	1,070*	1,150	1,169	1,090	1,001	862	835	734	687	659
Exports	672*	516	465	538	558	312	368	206	340	269
Net supplies	398*	634	704	552	443	550	467	528	347	390
Consumption	380*	496	710	610	480	540	502	395	372	363
Excess consumption	...	....	6	58	37	...	35	...	25	...
Excess production	18*	138	...	...	...	10	...	133	...	27
Stocks from previous year	252	114	120	178	215	205	...	107	132	105
Stocks end of year	270*	252	114	120	178	215	205	240	107	132
High price, Lake copper	14	26¼	24	18⅞	15⅜	15⅜	13½	17	17¼	19⅜
Low price, Lake copper	12¼	12½	17⅞	15	12¼	12	11	13	16	13¼
Average price, Lake copper	13.5	20	19.6	15.9	13	13.7	12.1	16.7	16.6	17.7

*Estimated.

year. This is a consumption at the rate of 545,000,000 pounds a year, accounting for four-fifths of this year's huge exports. That their purchases have not been of a speculative character is shown by the consumption figures for the same period (with one month's German consumption estimated). The figures (in tons) are:

	1908 (9 mos.)	Increase.
Germany	114,700	23,500
England	60,300	14,600
France	47,600	9,900
Italy, Austria and Russia	21,400	8,400
Total	244,000	56,400

These countries have consumed 546,000,000 pounds of copper in nine months, an increase of 125,000,000 pounds over last year. This is a consumption at the rate of 606,000,000 pounds a year. It is plain, therefore, that the 1908 American export trade is based, not on speculative demands in Europe, but on real trade needs. The foreign copper industry is recovering much more rapidly than our own from the world-wide liquidation of 1907. It is this European trade recovery that has saved our copper market from going all to pieces.

The big year in our copper trade was 1906, when our domestic production was 935,000,000 pounds, our total supplies 1,169,000,000 pounds, our consumption 710,000,000 pounds, with Lake copper rising from 18 to 24 cents. That the production and consumption records of that year will soon be surpassed, despite the enormous setback of the past year, no one can doubt. But in the coming copper boom it is not probable that the absurdly high prices of the winter of 1906-7 will be reached. The trade has had its lesson, and a very costly one. The domestic consumption of 1906 in pounds is thus estimated by the Geological Survey (the estimate is probably too low):

Stocks at refineries January 1, 1906	118,000,000	
Copper refined in the United States	888,000,000	
Imports for consumption	211,000,000	
Total copper supplies		1,217,000,000
Exports	447,000,000	
Stocks at refineries December 31, 1906	92,000,000	
Total net supplies		539,000,000
Copper consumption in the United States		678,000,000

The consumption of copper in 1906 by the principal copper industries is thus estimated by the same authority (in pounds):

Electrical industry (including copper wire)	340,000,000	50%
Brass mills	210,000,000	30%
Copper mills	35,000,000	5%
Miscellaneous (chiefly casting)	100,000,000	15%
Total consumption	685,000,000	

As our chief competitor in the copper industry is Germany, it is of interest to compare her record figures of consumption with ours. The electrical industry, it will be noted, occupies the same relative importance in Germany as in the United States. The record German consumption is what ours was when the Amalgamated Copper Company was floated. The increase in the German consumption has been due entirely to the growth of the electrical industry. The other branches of the copper trade have made no increase in the use of the metal since 1900. These figures average the boom years 1906-7 (in pounds):

Electrical industry	180,000,000	50%
Brass mills	78,000,000	22%
Copper mills	52,000,000	14%
Miscellaneous	50,000,000	14%
Total consumption (pounds)	360,000,000	

These figures of American and German copper consumption are given to show the commanding position the electrical industry has taken in the copper trade. The American electrical industry, before the panic, was using more copper than did the whole country in the boom that floated the Amalgamated in 1899. The German electrical industry was using nearly as much copper in 1906-7 as did the entire German copper trade when the Amalgamated was floated.

The barometer of copper, therefore, is the electrical industry. When, in the 25-cent copper market of 1906-7, the chief user of copper in the American electrical industry announced to its shareholders that it could no longer conduct its business at a fair profit, because of the high price of the metal, it was as plain as daylight that the metal would fall. In seven months it did fall from 25 to 12 cents, and one of the three great electrical companies went into the hands of receivers. The other two had fortified their cash resources and were enabled to weather the storm. These three companies—the Western Electric, the General Electric and the Westinghouse—were consuming copper at the rate of 200,000,000 pounds a year, 30% of the country's consumption. When they stopped buying the metal the copper market was paralyzed. Their consumption this year has been at the rate of only 100,000,000 pounds.

Without a boom in the electrical industry there can be no boom in the copper market. And there can be no boom in the electrical industry until capital recovers from its fear and ventures again in a big way in the construction of electric power plants, lighting stations, electric railways and new telephone lines, and in the electrification of steam roads. The present attractive level of copper prices, the surplus of idle money, the favorable business outlook, and the feeling that the violent attacks on corporate enterprises will cease under Mr. Taft's administration, all ought to combine to cause a healthy revival in the electrical industry, with consequent better prices for the metal. One unfavorable feature of the outlook, however, should not be overlooked. A very large part of the product of the electrical industry is sold to public-service corporations —telephones, railways, power and lighting plants. In the present condition of uncertainty as to the future freedom of the corporations to earn a return on their invested capital commensurate with the risk involved, capitalists and investors prefer to put their funds into other enterprises. The collapse of the New York traction companies, and the vacillating policy of the Public Service Commission in dealing with the receivers, has thoroughly frightened investors. The policy of the commission, in its position between corporations and investors, should be to inspire the confidence of investors in these enterprises. The Public Service Commission has a triple duty—the care of the public, the safeguarding of investors, and the encouragement of healthy corporate enterprise.

The use of copper in the electrical industry may be indicated by a few striking facts. The amount of copper in Bell telephone lines increased from 320,000,000 pounds in 1905, to 375,000,000 pounds in 1906, to 430,000,000 pounds in 1907, and it will soon reach half a billion—a consumption before the collapse of a million pounds of new wire a week, more copper than all the mines of the country produced when the telephone was introduced and the Anaconda was opened up thirty years ago. The Bell wires, strung out in one line, would reach thirty-seven times as far as the moon. The 50,000 miles of electric car lines in the country now have 100,000,000 pounds of copper in conductors, and the country has only begun to build trolley lines. To carry electric power from generating stations, 200,000 miles of wire, weighing 500,000,000 pounds, is now in use. Only a tenth of the power of the country is now generated electrically. The 200,000 miles of ocean cables contain 100,000,000 pounds of copper. Our normal consumption of copper for wire is now close to 200,000,000 pounds a year, with 150,000,000 pounds more used in the electrical industry in the manufacture of machinery. When we take up steam railroad electrification in earnest there will be an enormously increased demand for copper. Following the electrification of the terminals in New York, Philadelphia, Boston and Chicago, will come the use of electric power on main lines with congested traffic—the Hudson Division of the New York Central, the New Haven from New York to Boston, and the Penn-

sylvania from New York to Philadelphia. Italy has begun the electrification of 1,000 miles of road, Germany is entering on an electric railway era, and in England electric power would seem to be the only salvation of the English railroad companies.

The American copper industry has grown at an astounding rate. We have just stopped to catch our breath. Copper is still in its infancy. When we began using the telephone and the electric light thirty years ago our copper production was 50,000,000 pounds a year; when the electric street car was introduced twenty years ago we were turning out 250,000,000 pounds a year; when the era of long-distance electric power transmission opened a little more than ten years ago we mined 500,000,000 pounds of copper; now our mines are on a 1,000,000,000-pound basis, with the era of steam railroad electrification just begun.

That copper prices will work higher in the next few months is evident, but there can be no boom in the metal market until the surplus stocks are reduced and American consumption shows a very marked increase. Twelve-cent copper affords very little profit to the big mines. Fourteen-cent copper means a profit for many mines, but no profit for hundreds of small mines. Sixteen-cent copper means prosperity in the copper-mining camps. A considerable advance beyond 16 cents simply invites everybody into the copper-mining industry, with the resultant increased production ending in a collapse in prices. If the cost of producing copper in a mine is 12 cents a pound, a 14-cent market means a 100% increase in profits over a 13-cent market, and every cent increase adds 100% to the profits on the 13-cent basis. This is why high prices invite over-production. Many mines that were opened in the 25-cent boom of 1906-7 will not be reported.

Frank Fayant.

OUR GRAIN SUPPLY.

Wheat.

November 17, 1908.

No commodity entering the channels of trade is so important, or has so many features affecting its price, as wheat. It is the greatest food article of the civilized world. Produced generally, with crops maturing somewhere nearly every month in the year, its value is never free from crop influences. It can be said of wheat there are trading features of daily appearance under our modern methods of information. An article so subject to variations is necessarily attractive for speculation. In commodity trading it is easily in the lead. Nothing dealt in commands and receives greater attention. The price of bread is of interest to all. It is a trite and fairly true saying,

"It takes the whole world to make the price of wheat." Especially does this apply to countries producing a surplus, the sale of which, in world competition, establishes the domestic value. In recognition of the quoted saying, it is of importance, for business or speculative guidance, that the situation of the world be understood. To this end it is necessary to enter the dry field of statistics that one may the better weigh the influences that bear on price. Wheat has many features for presentation, but only those most influential and important, most formative of opinion, will be briefly given in this article.

Treating first of the world generally; the five crops of 1898-1902, inclusive, show an average production of 2,869,097,200 bushels. The five crops following. 1903-1907, inclusive, an average of 3,239,978,000 bushels, and an increase of 370,880,800 bushels. These figures, from best official source, show that the needs of the world have increased in five years nearly thirteen per cent. There was a practical disappearance of reserves in, beginning the season, of 1908. A continuance of this progression means a greater need each year; as much, at this time, as 80,000,000 bushels more. Logically, if the world fails to produce it, the lessened supply exerts influence in appreciation to bring economies. The world has never starved, but irregularities in production have made many irregularities in price.

In the following tables are given the average crops of the world, by countries, for two periods of five years each, and the percentage of each to the total production.

World's Average Wheat Crops, 1898-1902 (Five Years) With Percentages.

	Bushels.	Per cent. of total.
United States	632,640,200	22.1
Russia	511,303,400	18.0
France	343,529,800	11.9
India	231,014,800	8.0
Austria-Hungary	200,296,800	7.0
Italy	139,371,000	4.8
Germany	130,139,400	4.5
Spain	111,650,600	4.0
South America	95,981,000	3.3
Canada and Mexico	84,117,800	2.9
United Kingdom	63,638,600	2.2
Roumania	57,958,000	2.0
Australasia	48,366,000	1.7
Bulgaria	27,724,600	.9
Turkey	21,400,000	.7
Belgium	13,283,600	.5
Others	156,681,600	5.5
	2,869,097,200	100

World's Average Wheat Crops, 1903-1907 (Five Years), With Percentages.

	Bushels.	Per cent. of total.
United States	650,509,800	20.1
Russia	588,364,200	18.2
France	338,697,600	10.4
India	313,454,800	9.7
Austria-Hungary	222,599,800	6.8
Italy	172,210,800	5.3
Germany	135,794,600	4.2
Spain	111,569,400	3.4
South America	154,892,400	4.8
Canada and Mexico	109,473,600	3.4
United Kingdom	54,469,400	1.7
Roumania	77,374,000	2.4
Australasia	64,475,200	2.0
Bulgaria	40,721,000	1.2
Turkey	22,000,000	.7
Belgium	12,706,400	.4
Others	170,665,000	5.3
	3,239,978,000	100

Changes in the Five-Year Averages of World's Wheat Production.

	Increases.	Decreases.
United States	17,869,600	
Russia	77,060,800	
France		4,832,200
India	82,440,000	
Austria-Hungary	22,303,000	
Italy	32,839,800	
Germany	5,655,200	
Spain		81,200
South America	58,911,400	
Canada and Mexico	25,355,800	
United Kingdom		9,169,200
Roumania	19,416,000	
Australasia	16,109,200	
Bulgaria	12,996,400	
Turkey	600,000	
Belgium		577,200
Others	13,983,400	
	385,540,600	14,659,800

Net increase 370,880,800 bushels.

The production of wheat in Europe, in the four years 1903-1906, inclusive, averaged 1,801,714,000 bushels. In 1907 the crop

of 1,613,168,000 bushels was a falling off of 188,546,000 bushels and nearly one-half of the loss fell in buying countries. This presentation shows there could have been very little carried over to supplement the present crop of 1908, which will not reach the figures of last season. It also goes to show a greater dependency on buying countries on importations in that they have no reserves. Their demands, therefore, should reach the full limit of any season in the past and may safely be assumed as for so much as 10,000,000 bushels a week.

Regarding the United States, our crops 1893-1900, revised to census basis, show an average of 580,407,092 bushels for an average population of 72,457,000, while the eight crops, succeeding, 1901-1908, show average of 666,262,750 bushels for an average population of 83,966,375. Production has increased in eight years 14.6 per cent and population 15.8 per cent. Our surplus is being lessened with our needs getting larger. The crops of five years, lessened by exports, show a disappearance of about six bushels per capita in each season for all domestic purposes, food, seeding, etc.

As a general proposition it may be said our surplus, in any season, is what we have raised over six bushels per capita. The crop for this season is estimated as near 660,000,000 bushels by measurement. In commercial bushels, of 60 pounds, nearer to 645,000,000 bushels. Calling our population 90,000,000, the needs of 540,000,000 bushels leaves but 105,000,000 bushels to spare. It is recalled the crop came to very low reserves. Exports have been so free that fully one-half of what could be spared entered clearance in four months. To a new crop this pace cannot be maintained without serious consequences.

We will have to go a bit slow to avoid the mistake of selling too much and repeat the conditions of 1904 and 1905, when wheat rose above the dollar mark after having been for a long period much below it. Not so much was sold to go abroad, but it was too much, and consumers, for the first time, saw flour a dollar a barrel higher in the United States than it was in London. The crop of 1903, which presented the high prices in the first six months of 1904, was 637,821,835 bushels, and exports of that season 120,727,613 bushels, and the crop of 1904, shortened by the appearance of rust in the Northwest, was 552,399,517 bushels, with exports of 44,113,000 bushels. A situation was presented enabling some importations from the British Northwest paying 25 cents a bushel duty. Are we tending to a repetition of this condition of the past? Possibly.

The exports of wheat and flour this season are at a higher value per bushel than in some years. Those of the year ending June 30, 1908, of 162,651,267 bushels, brought $163,525,953, or a little over a dollar per bushel. Since the first of July the bushel price has been much higher. What countries, by continents, have been the buyers of the United States is well shown in the exports of 612,055,552 bushels taken in the five years

1903-1907, inclusive. The money received for this wheat and flour averaged 85.06 cents per bushel. Europe took 69.4 per cent.; North America, outside of United States, nearly 10 per cent.; South America, 3.5 per cent.; Asia, say, 12 per cent.; Oceanica, 1.4 per cent., and Africa 3.5 per cent.

In any treatment of the domestic crops it is well to bear in mind they are declared in measured bushels and distributed in commercial bushels of sixty pounds. The average weight of wheat in pounds per measured bushels of 57.24 is about 4.5 per cent. under the commercial weight. The crops of ten years declared in measured bushels as 6,311,816,261, were but 6,027,784,530 commercial bushels; a difference of 284,031,731 bushels in the ten years.

Russia is second in importance to the United States in selling to Europe and can be regarded as most in competition. Inclusive of Russia in Asia, the average production in recent years has been 588,400,000 bushels. Exports have averaged 152,435,000 bushels. In ten years the lowest exports in a season have been 67,500,000 in 1899, and the highest 180,500,000 bushels in 1905. Russia raises in each season nearly one-third of the wheat crop of Europe and over one-half of the rye. The great consumption of the latter explains why so much wheat can be exported from a country producing about 4½ bushels per capita. Under the primitive and economical methods employed in farming in Russia, the yield of grain is very low. The average yield of wheat per acre in ten years is but 9.46 bushels and of rye 11.45 bushels. In five years is shown an increase in wheat production of 15.1 per cent. The large crops of Russia come from the occupation of a large area necessitating great use of seed. The crops of 1907 were 501,000,000 wheat and 808,000,000 rye and were incapable of large exports. No large crop is indicated for this season. The markets of Russia are nearly all in Europe. The exports of five years of 694,745,740 bushels show destinations as follows: United Kingdom, 19.6 per cent.; France, 13.6 per cent.; Italy, 23.7 per cent.; Germany, 6.3 per cent.; Netherlands, 18.1 per cent.; Belgium, 2.2 per cent.; Greece, 4.1 per cent.; Spain, 3.1 per cent.; others, 9.3 per cent. The American trader is necessarily watchful of the crops of Russia, and it is largely due to the situation there the present abounds in high prices.

Next in importance is Argentina. As a well-grown and increasing factor in the world's wheat supply, this country in recent years claims much consideration. It is a country of great areas, easily cultivated and much in its favor is the adoption of modern methods in farming, whereby the best results attend labor. Argentina is a great buyer of farm machinery. Being a new country, there were no prejudices to overcome as exist in many parts of Europe. The farmers are largely industrious Italians.

But a few years ago Argentina was an unimportant factor

in the world's wheat trade. The exports have risen until they are now fully one-fourth of the imports of Europe. The harvest season in December, when the supplies in the Northern Hemisphere have had six months' consumption, insures for Argentina good prices, and, under the stimulus, the area is being extended about ten per cent. a year, and this extension is of virgin soil brought into cultivation. It is easily seen Argentina has been a blessing to Europe. Without Argentina the situation would be a very serious one. The exports in 1908 will approximate 140,000,000 bushels. An equal yield per acre in the coming season should give 160,000,000 exports in 1909. The increased area is practically all an added surplus. The country is a vast one: 2,300 miles long by 500 wide. Not in wheat alone do we find Argentina of importance. Corn, oats and flaxseed are largely exported. It is a grazing country, and not a feeding country, so nearly all grain is disposed of. The winters are mild where grain is produced and frosts seldom. Grass abounds all the year. In 1908 the exports of oats have been 30,000,000 against none at all a few years ago. The indications point to a large wheat crop nearing harvest.

Passing from producing countries temporarily, we find in the United Kingdom the largest buying country. With a population of 45,000,000 and distribution of six bushels per capita, 270,000,000 bushels are disposed of each season, of which 53,000,000 is raised at home and 217,000,000 is imported. The average net imports for five seasons is just this quantity. The crop recently harvested is estimated 53,000,000 bushels.

France is practically self-supporting. That is to say, production, and imports from her colonies, about equal consumption, which is very large per capita. Import duty is about 37 cents per bushel, but in time of need has some abatement. A bad crop in 1897 necessitated imports of 78,000,000 bushels. In the past five years the crop average of 338,300,000 bushels compares with 343,500,000 in the five years preceding. The crop of 1907 was large at 369,970,000 and left a remainder estimated at 40,000,000 to 56,000,000 bushels to supplement the crop of this season, officially estimated at 31,600,000 bushels. It is the expectation France will be a moderate importer next Spring. Population 42,000,000 and consumption about eight bushels per capita. Rye crop, 1907, 58,578,000 bushels.

Belgium's average crop of wheat is 12,700,000 bushels. Belgium, for its 7,000,000 people, is quite a factor in the world's wheat. Average imports 62,920,000 and exports 16,400,000. Needs are for 46,520,000 bushels foreign wheat, indicating a consumption of near 8½ bushels per capita. Crop was 12,000,000 bushels in 1907.

Netherlands, with a small area, the crops show an average of but 4,753,000 bushels. Imports have been large, but largely enter export. Imports in five years 298,300,000 and exports 206,400,000, show 18,380,000 retained each year, or eighty per

cent. of the requirements of 5,100,000 population. Consumption figures 4½ bushels per capita. The rye crop of 14,000,000 furnishes much of the breadstuffs of the country.

An average of 297,513,200 bushels is presented in the crops of India in recent years and 41,400,000 in exports. The latter shows extremes of 15,028,000 in 1902 and 83,128,000 in 1905. In the past season India was not much of a contributor to the world's shipments. The season approaching, dating from April 1, is in better promise and from a better crop should follow a fair export movement.

Germany is more or less a dependent country, with crops averaging 135,800,000 bushels and net imports 68,850,000. Despite a large production of rye, say, 385,000,000 bushels, and potatoes, say, 1,575,000,000 bushels, the consumption of wheat appears to be near 205,000,000 bushels in each season for a population around 58,000,000. Production of rye is about 6⅝ bushels and of potatoes 27¼ bushels per capita.

Austria-Hungary. This dual monarchy is not regarded dependent on imports or capable of exports. Only in unusual seasons is there even a moderate movement across the boundaries. In recent seasons imports have averaged 3,500,000 bushels and exports 4,015,000 bushels; the latter mainly to Bosnia and Herzegovina. Population is about 48,000,000.

An average crop in Italy is 172,210,800 bushels. Imports five years average 192,800,000 and exports in wheat and flour but 175,000 bushels, while in manufactured form, mainly as macaroni, 75,900,000 bushels. Average net imports each year 23,345,000 bushels. Population 33,000,000. Crop of wheat in 1907 was about 175,000,000, and indicated crop of 1908 is 146,400,000, suggesting Italy a good buyer in the present season.

Spain, with a population of 19,000,000, raises 111,570,000 bushels each year and is usually a small importer.

Brazil, once a large buyer of the United States, since the rise of Argentina, is obtaining the bulk of her breadstuffs from that country. The country is still a customer, and exports from the United States show a taking each year of about 335,000 barrels of flour.

Canada is of rising influence since the rapid development of grain growing in the British Northwest. In 1903, due to some shortage, the United States sold Canada 5,430,000 wheat and 116,200 barrels flour. Now we find Canada raising crops of wheat well over 100,000,000 and exporting about one-half of it. Perhaps more sharply than elsewhere does the American trader feel the Canadian competition in selling to the United Kingdom.

Bulgaria is a surplus country. Her crops show an average of 40,000,000 bushels. Exports have ranged from 5,560,000 bushels in 1901 to 20,285,000 in 1906. Average of recent seasons is 11,200,000. A small crop in 1907 furnished no reserve to supplement the crop of 1908, which has not been highly estimated.

Sweden and Norway import about two-thirds of their requirements, or, say, 10,800,000 bushels each year for their 7,300,000 population. Crops average but 5,950,000 bushels.

Denmark is an importer of near 5,000,000 bushels in each season.

Switzerland is a good buyer. Raises about 4,000,000 and imports each year 17,825,000 for a population of 3,000,000.

Roumania is a good producer and free exporter. Crops show an average of 84,170,000 and near one-half entering export and about eight per cent. of the world's imports. Population of 6,000,000 shows production very high at 14 bushels per capita.

Other lands taking wheat and flour are Japan, China, Portugal, Greece, South Africa, etc. In the aggregate the amount is considerable. Especially is the movement from the United States to Asia of interest to the trade.

Surveying the situation generally, it appears the world's crops of this year will not equal those of last year. They should be far more if the progression of the recent past be maintained. There will certainly be a demand for all wheat the United States can spare. The higher prices will solve the question of supply in the economies they bring. Wheat will not be cheap when so much in request.

Rye.

As a food product one cannot ignore an observation of rye, for it certainly is of importance in Europe. The reduction in the United States has never risen to two per cent. of the world's production. Around 30,000,000 is a fair crop in the United States. In the world the crops average 1,596,890,200 bushels, of which in Europe 1,533,716,200 bushels. Germany and Russia use rye largely for their food supply and raise 383,383,600 and 849,167,800 bushels each year, respectively.

Corn.

In corn we find the leading grain crop of the United States. The crops of the world in five years ending 1906 show an average of 3,338,012,400 bushels, of which the United States contributed 77.1 per cent.; Europe, 13.8 per cent., and the rest of the world, mainly Argentina, 9.1 per cent. American crops averaged 2,574,143,200 bushels; Danubian districts, 263,258,000; Russia, 36,316,600, and Argentina, 148,755,000 bushels.

It will be readily seen corn is essentially an American production. It so happens it finds its great use at home. Only in seasons of plenty and low prices has much corn gone to Europe. It was then taken as feed rather than food. As food, corn has never popularized itself in Europe. And it may be said it is losing its popularity at home since prices have risen to make

it so dear. And what has made it so dear? This has been a conundrum to those who have failed to note many crops have not been properly declared.

It is a fact the census of the crop of 1899 declared it 588,206,346 more bushels from 12,618,322 more acres than did the Department of Agriculture for that same year. The decennial census furnishes the basis for acreage for the Department of Agriculture. The crops of 1896 and 1900, five years, were not on census basis. Census figures appeared in 1901 and were adopted for that year's crops and those since. A difference of so much as 28.3 per cent. in production in 1899 must have been of gradual growth. The country was raising far more corn each year than was officially declared, and selling it freely and cheap. When most was sold for export the average price on ship was but 38 cents a bushel.

Revising the crops of 1896-1900 to a census basis, we find them changed from an average of 2,058,854,841 to an average of 2,574,612,047 bushels for a population averaging 75,000,000. The crop of 1901 was a calamity crop and is ignored in a comparison. Those of 1902-1906, inclusive, declared on census basis, show an average of 2,574,143,160 bushels for an average population of 85,000,000. That is to say, we have had no more corn for 10,000,000 more people. It so happens our needs at home were obliged to some extent by a lessening of exports due to our higher price and an increase of production in Argentina. The exports of 800,000,000 in the five years 1896-1900, inclusive, fell away to 400,000,000 in 1902-1906, inclusive. In 1907 the crop of corn was declared 2,592,320,000 bushels. The crop of 1908 is estimated around 2,642,000,000 bushels. For a population now of 90,000,000 the production per capita shows a lessening. Consumption has perceptibly moderated since prices have risen so largely.

The supply of corn entering the markets comes from seven States. In those States this season the crops show considerable loss occasioned by drought; a condition suggesting the supply in the markets on sale will at no time be burdensome and depreciative. Highest exports were in 1900 with 209,348,284 bushels and lowest in 1902 with 26,636,552 bushels. Of recent years, the average is around 84,000,000. They are much less in this season from scarcity and high prices. The days of cheap corn appear to have passed. It has entered a period of greater value.

The oat crop of the world in the past five years has averaged 3,528,167,000 bushels. Of the quantity North America furnished 1,093,342,800; Europe, 2,318,228,000, thus leaving but 116,596,200 for Asia, Africa, South America and Australasia.

An average in the United States is 870,250,800; of Germany, 536,500,000; Russia in Europe, 819,739,200; the United Kingdom, 189,719,000 bushels. American exports are unimportant. Only in six seasons have they transcended 30,000,000 bushels in a

year. More frequently they have been under 10,000,000 bushels. In ten years extremes of farm values, as compiled by the Department of Agriculture, have been 24.9 cents and 44.3 cents, with average 31.7 cents. Commercial supply comes from Illinois, Iowa, Nebraska, Wisconsin and the Northwest.

In two seasons the crop has been disappointing and small production has asserted high prices. There appears no relief probable until better harvests are secured. This means there can be none for at least nine months to come. But for the largest and best hay crop ever secured in the United States, the situation would be much more serious in oats.

In this letter no attempt is made to go into the subject of prices. It is, however, well for us to know where our grain supply comes from, also its volume and the general conditions in the countries that contribute to the world's supply.

THE PROPOSED TEN PER CENT INCREASE IN FREIGHT RATES.

November 24, 1908.

There is an increasing interest on the part of the public in respect to the effect the proposed increase of 10 per cent. will have upon railway freight rates. The natural assumption that an increase by that percentage must mean a corresponding increase in the total gross earnings is erroneous. To present the subject clearly the following tabulations have been carefully prepared by an expert. The wide difference in the results between the 37 roads named from such an increase as is proposed is quite apparent.

TABLE I. shows the percentage of freight earnings to total. It will be seen that the coal roads, as might be expected, occupy first places here. The roads other than "coal" having a large volume of freight business are the Nickel Plate, Toledo, St. Louis & Western, Kansas City Southern, St. Louis Southwestern, Great Northern, Wisconsin Central, Union Pacific and St. Paul.

TABLE II. shows the percentage of commodity tonnage to the total freight. The table is arranged alphabetically. Should coal traffic be excluded from increased freight rates, the coal roads will naturally share less, proportionately, in the benefit to be derived from higher rates on general freight. It will be noted that the roads having the largest percentage of high-grade freight are the Atchison, Chicago, Rock Island & Pacific, Boston & Maine, St. Paul, M., K. & T., Nickle Plate, Southern Pacific, Toledo, St. Louis & Western and Wabash.

TABLE III. shows the benefit derived from a 10 per cent. increase in rates as applied to capital stock, and is arranged accord-

ing to the percentage of increased stock earnings. The figures, however, are based on the supposition that all classes of freight, coal included, will share in the higher rates. Roads whose capital stock is very large in proportion to their entire capitalization will, of course, show relatively a smaller degree of advantage. The roads most conspicuous for large stock issues are the Great Northern, Northern Pacific, St. Paul and N. Y., Ontario & Western, and these roads fall last in the table.

Table I, Showing Freight Earnings.

Per Cent. of Total Gross.

1.	Buffalo, Rochester & Pittsburg	85.41
2.	Lehigh Valley	85.01
3.	Norfolk and Western	82.86
4.	N. Y., Chi. & St. Louis	82.61
5.	Delaware & Hudson	82.35
6.	Toledo, St. Louis & Western	80.46
7.	Reading	77.04
8.	N. Y., Ont. & Western	77.02
9.	Kansas City Southern	76.41
10.	Chesapeake & Ohio	75.73
11.	Baltimore & Ohio	75.64
12.	Pennsylvania (lines east)	75.11
13.	St. Louis Southwestern	74.84
14.	Great Northern	74.35
15.	Wisconsin Central	72.85
16.	Erie	72.62
17.	Union Pacific	72.51
18.	Bangor & Aroostook	71.36
19.	Chi., Wilwaukee & St. Paul	71.01
20.	Louisville & Nashvile	70.22
21.	Colorado & Southern	70.11
22.	Chicago Great Western	68.67
23.	Atlantic Coast Line	68.28
24.	Atchison, Topeka & Santa Fe	68.25
25.	Northern Pacific	68.03
26.	Chicago, Burlington & Quincy	67.59
27.	St. Louis & San Francisco	67.40
28.	Illinois Central	66.92
29.	Wabash	66.45
30.	Missouri, Kansas & Texas	66.14
31.	Southern Pacific	65.07
32.	Chi., Rock Island & Pacific	64.80
33.	Southern Railway	64.54
34.	Chicago & Alton	63.46
35.	New York Central	63.44
36.	Boston & Maine	57.67
37.	N. Y., N. H. & H.	47.65

Table II, Showing Classification of Freight.

Per Cent. of Total Tonnage.

	Agriculture and Animals	Mines	Forests	Manufac. and Misc.
1. Atchison	30.9	32.0	12.4	24.7
2. Atlantic Coast Line		Not reported		
3. Baltimore & Ohio	7.8	64.9	5.2	22.1
4. Bangor & Aroostook	19.0	11.8	39.5	29.7
5. Boston & Maine	16.7	30.0	13.7	35.6
6. Buffalo, Rochester & Pittsburg..	2.1	81.3	2.2	14.4
7. Chesapeake & Ohio	5.2	70.8	10.3	13.7
8. Chicago & Alton		Not reported		
9. Chicago, Burlington & Quincy..		Not reported		
10. Chicago Great Western		Not reported		
11. Chicago, Milwaukee & St. Paul..	28.4	28.5	13.0	30.1
12. Chicago, Rock Island & Pacific.	34.3	27.8	12.3	25.6
13. Colorado & Southern	17.4	61.8	6.2	14.6
14. Delaware & Hudson	5.7	68.4	4.5	21.4
15. Erie	8.0	60.7	3.2	28.1
16. Great Northern		Not reported		
17. Illinois Central		Not reported		
18. Kansas City Southern		Not reported		
19. Lehigh Valley	13.3	62.0	3.3	21.4
20. Louisville & Nashville		Not reported		
21. Missouri, Kansas & Texas	27.2	36.4	9.1	27.3
22. New York Central	17.5	47.4	6.5	28.6
23. New York, Chicago & St. Louis.	29.4	28.4	6.3	35.9
24. New York, Ontario & Western..		Not reported		
25. New York, New Haven & Htfd.		Not reported		
26. Norfolk & Western	6.5	70.9	9.8	12.8
27. Northern Pacific		Not reported		
28. Pennsylvania	6.6	64.8	4.5	24.1
29. Reading		Not reported		
30. St. Louis & San Francisco	18.9	42.0	20.2	18.9
31. St. Louis Southwestern	20.5	12.4	48.9	18.2
32. Southern Pacific	23.5	28.2	18.4	29.9
33. Southern Railway	12.3	38.8	17.7	31.2
34. Toledo, St. Louis & Western.	23.7	38.5	7.4	30.4
35. Union Pacific		Not reported		
36. Wabash	26.6	34.1	7.5	31.8
37. Wisconsin Central		Not reported		

Table III, Showing Increase in Rates Applied to Capital Stock.

		Traffic from Freight Earnings	10% Increase Equals	Common or Capital Stock		P. C. Inc. Cap. Stock
1.	C., R. I. & P....	$37,899,356	$3,789,935	*$49,139,300	pfd.	12.5
	St. L. & Frisco..	23,976,297	2,397,629	* 89,733,700	com.	6.9
2.	Buff. Roch. & P..	6,338,934	633,893	6,000,000	pfd.	10.5
				10,500,000	com.	6.0
3.	Boston & Maine.	22,486,065	2,248,606	28,245,466		7.9
4.	New York Cen..	59,406,447	5,940,644	178,632,000		7.5
5.	Lehigh Valley ...	30,186,582	3,018,658	40,344,800		7.4
6.	B'gor & Ar'st'k..	1,869,435	186,943	2,510,000		7.4
7.	N. Y., C. & St. L.	8,645,817	864,581	14,000,000		6.1
8.	Atchison	61,848,639	6,184,863	103,001,000		6.0
9.	Southern R'way..	34,171,329	3,417,132	60,000,000	pfd.	5.6
				120,000,000	com.	2.8
10.	Louisville & Nash.	31,334,941	3,133,494	60,000,000		5.2
11.	C., Burl. & Q'cy..	53,036,306	5,303,630	110,839,100		4.8
12.	Reading	32,080,198	3,208,019	70,000,000		4.5
13.	Wabash	17,103,693	1,710,369	38,427,153	pfd.	4.4
				52,427,153	com.	3.2
14.	Wisconsin Cen. .	5,323,931	532,393	12,500,000	pfd.	4.2
				17,500,000	com.	3.0
15.	Del. & Hudson...	16,614,833	1,661,483	42,400,000		3.9
16.	Chicago & Alton.	7,671,477	767,147	19,542,800		3.7
17.	Pennsylvania 123,826,165		12,382,616	314,594,650		3.9
18.	Southern Pacific..	74,500,000	7,450,000	197,849,259		3.8
19.	Norfolk & West.	23,990,630	2,399,063	64,469,200		3.7
20.	Illinois Central...	35,357,811	3,535,781	95,040,000		3.7
21.	Atlantic Coast L.	17,739,171	1,773,917	47,537,600		3.7
22.	Baltimore & O...	55,681,786	5,568,178	152,175,829		3.6
23.	St. Louis S'w'n..	7,173,799	717,379	20,000,000	pfd.	3.5
				16,500,000	com.	4.3
24.	Colorado & So..	10,011,749	1,001,174	31,000,000		3.2
25.	Chesapeake & O.	19,571,609	1,957,160	62,790,700		3.1
26.	Tol., St. L. & W.	3,072,674	307,267	9,995,000		3.1
27.	Erie	33,946,341	3,394,634	112,378,900		3.0
28.	Union Pacific ...	54,600,000	5,460,000	195,477,900		2.8
29.	N. Y., N. H. & H.	25,281,435	2,528,143	97,895,700		2.6
30.	Chicago Gt. West.	5,600,000	560,000	23,070,706	pfd. B.	2.5
				44,465,195	com.	1.3
31.	M., K. & T.....	15,400,006	1,540,000	63,300,300		2.4
32.	Kansas City So...	6,692,308	669,230	30,000,000		2.3
33.	Northern Pacific.	46,423,836	4,642,383	248,000,000		1.8
34.	Chi., M. & St. P.	40,426,880	4,042,688	232,000,000		1.7
35.	Great Northern..	40,311,420	4,031,142	209,962,750		1.4
36.	N. Y., Ont. & W.	6,255,208	625,520	60,113,983		1.4

* Stock of Rock Island Co.

A GENERAL RESUME OF THE STOCK MARKET.

By Henry Hall, author of "How Money is Made in Security Investments."

December 1, 1908.

In the absorbing interest of a Wall Street campaign, such as has been witnessed within the last twelve months, traders and investors sometimes lose track of broad features of the situation, and it is for the purpose of sketching these briefly from my point of view that the present letter is written.

The actual top of the last bull market was touched in 1906. So far as leading railroads shares are concerned, the top was recorded in the Fall of the year. Taken as a whole, railroads and industrials both considered, the market reached its high average price in January, 1906, and that was the highest level in the history of the American stock market. Some amazing and previously unheard-of prices were then made by the gilt-edged railroad issues in particular.

It was during 1906 that all the different forces came into play, in an acute form, which precipitated the panic of 1907, a panic which was clearly foreseen and predicted by every close student of finance and which was so inevitable as to make it in January, 1907, almost a moral duty which every man owed to himself to go short of the stock market. Mr. Schiff, Mr. Vanderlip and other excellent authorities not only warned the public of what was coming, but also pressed the matter on the attention of the authorities at Washington. Nothing was done, possibly nothing could really have been done, to avert the crisis. At any rate, in February, 1907, the good times came to an end, disaster followed, and in March, 1907, the panic began.

From the high level of 1906 stocks fell an average of more than $50 a share, a few declining more than $100 a share. In the stock market, the panic culminated in November, 1907, when, with a few scattering exceptions, the lowest prices were made. There was a moderate recovery into January, 1908, and a strong reaction in February, practically to the low level of the panic. I say practically, for this reason, that the last 5 points smash in leading stocks in the November panic was a purely dare-devil and reckless manipulative move, which lasted only a few minutes. No pool and extremely few individuals could have accumulated any volume of stock whatever at the lowest prices of November. They happened and were gone in a few minutes, and accumulation really began at a level 5 or 6 points up from the bottom, the same level to which the reaction extended in February, 1907. Those who look for such things may then consider the low prices of February, 1908, as making a strong double bottom with the bottom of the panic. And be it noted in this connection, that the depression in business

which followed and was partly caused by the panic, reached its worst and most acute stage in the same month of February, 1908.

From February, 1908, the trend of the stock market has been consistently upward, with only one reaction worthy of the name, and we have finally reached a point, in December, 1908, when prices are so high, that many large fortunes have been made by the courageous souls who put their money into stocks during the first three slow months of the recovery.

The question of the moment is as to where the stock market now stands. It is admitted that general business has greatly improved since February, 1908, that railroad net earnings have in not all but in many cases returned almost to high-water mark, that from present appearances all existing dividend rates are secure and that scores of corporations will resume or pay larger dividends in the not distant future, and that, for the time being, there is an abundance of money for corporate enterprises of all kinds. Have stocks already discounted the betterment in the financial and business situation, or have they not sufficiently done so, or where, as a matter of fact, does the market stand?

And first as to the actual facts with regard to prices:

A few stocks, as every trader and broker knows, have now risen, for good and sufficient reasons in each case, to the highest prices in their history. Colorado & Southern, which has been bulled by Mr. Gibson for many months, solely on the earnings of the property, has now had a two per cent. dividend voted for it, and has taken its place among properties worthy the attention even of an investor. Southern Pacific, wth its enormous earnings and power to pay a larger dividend than 6 per cent., is justly entitled to a place in the front rank of American railroad stocks, even leaving out of consideration all questions relating to retirement of the preferred stock, etc. United States Steel has apparently entered upon an era of great prosperity, regardless of the tariff issue; the company has an enormous surplus; a larger dividend is one of the strong probabilities of the future. These three stocks, with two or three others, are selling at the highest prices ever known. They have more than recovered all their loss during the panic. Have they discounted fully the improvement in earnings and business so far? I certainly have an opinion on that subject. But without mentioning it, let me ask have they fully discounted the remarkable abundance and ease of money? Are United States Steel Pfd. or Southern Pacific selling on a basis which would yield 4 per cent. on the investment at present prices? If not, then every man of experience in the stock market knows what those stocks will do during the next year or two, assuming that general business conditions continue favorable.

Take another and larger group of stocks! A swarm of the minor industrials, the gas stocks, and a few of the smaller railroads, but including also the great Union Pacific, have also risen as high as they were in 1907, if not in 1906. In other words, the recovery in their case has been practically equal to the decline. I doubt if

every trader, broker and newspaper writer fully appreciates this fact. At any rate, little if any attention has been called to the matter publicly. Now that they are up on their old high levels, what has the future in store for them?

For lack of time, there is no intention here to discuss them all separately; and yet the recovery in stocks has reached a point, where it seems desirable to consider every security separately. Earnings, the probability of larger dividends, or a resumption of dividends, and the comparative ease of money, would seem to me to be the special matters which should be considered in each case. For instance, American Car & Foundry is one of this group. It is paying 2 per cent. a year, has a surplus profits account of $22,000,000, and is earning several times 2 per cent. for the common stock every year. It is hardly necessary to comment on the probable future of this stock, especially as to all appearances there is a period of great business prosperity ahead of us. Disregarding the immediate future of the stock market, the next 10 or 15-point move, what is there to prevent a considerable farther appreciation in the value of every stock, which has now recovered the whole amount of its decline? Only one thing that I can now discover, and that is the possibility of such changes in the tariff as to depress particular industries. Price depends mainly upon earnings. And so far as the effects of tariff revision are concerned, it is doubtful if it can have any important effect upon railroad securities. By lowering the cost of rails and supplies, a lower tariff would benefit the railroads, and, on the other hand, reduced purchasing power among men of large means would make a less eager demand for security investments. One influence would presumably offset the other, while larger earnings in a period of business activity has never yet failed to help the price of stocks and probably never will fail to do so.

Reference should now be made to another great class of stocks, both rails and industrials. There are a multitude of these, which have so far been laggards in the market and have not recovered the whole of the decline. They are so numerous, that, taking the market as a whole, the whole body of stocks yet stands on the average about 15 points lower than the top in 1906. Some of the great railroads like Baltimore & Ohio and Pennsylvania are about 20 points lower than the high levels of two years ago. It seems to me that those who are looking for safe and profitable investments at this time, should pay considerable attention to every railroad property, with a good business, a large surplus profits account, and a reasonable dividend, whose market price is yet notably below a 4 per cent. investment basis.

Reactions will come, and reactions will go, and some of them will be drastic and severe; but it is my opinion, based on a study of fundamental conditions and the prospects of the next two or three years, that the securities of all good properties, which are not overcapitalized, will yet rise to prices never before seen in this country, before we have another great panic. And as for the next

few months, it is worth while to reflect on what it means for 80,000,000 of people and several billions of invested capital to economize for a long, weary year, with buyers of all classes, large and small, keeping their purchases at an absolute minimum; and then to reflect upon what it means for all producers and manufacturers to have the weight lifted from all hearts and the pent-up energies of a great nation released for farther enterprise. It needs no words of mine to describe what all this means for corporate enterprise of every description in this, for the stockholders thereof, and the market prices of securities.

In any broad view of the present position of the stock market and the influences, likely to affect the future, consideration should be accorded to three matters of vital importance.

Tariff revision is one of them. That there will be some revision is now a certainty. The details have not been arranged, however, and will not be for several months. No action seems at all possible until the extra session of Congress, although there will be considerable informing discussion of the subject all through the coming winter. For my own part, I see little if any reason whatever, except a political one, for any important revision of the tariff; and, in my opinion, it would have been better manners for Mr. Carnegie to have kept out of the discussion entirely. Once before, while Mr. Carnegie was yet in the harness and in active management of the great industry in which his fortune was acquired, the country was startled by his advocacy of a lower tariff on iron and steel. In my opinion, this was not then disinterested advice. At that time, there were yet in existence a large number of small independent iron and steel plants, furnaces, mills and shops, the majority of which would have disappeared at once had the proposal for lower duties been carried out; and the business of these small concerns would have gone largely to the Carnegie mills, which, owing to their immense size and large capacity, might have survived under duties which would have been fatal to the small concerns. Now that Mr. Carnegie has retired from active business, it would be becoming should he leave the present discussion to those more vitally affected. A trifling incident has hurt the cause of Protection in this country more than any other one thing. It is the practice of large manufacturing interests in every country under the sun to dump their surplus production in foreign lands and sell the goods at almost any price better than cost. This has been done to some extent by American manufacturers, and the facts, reported at home and magnified in importance by discussion, have seemed to indicate unspeakable iniquity in our protective tariff laws, and have helped stimulate the demand for revision. As a general result of all the agitation, we are face to face with a movement which will now result in changes in the tariff. The country has already had one experience with a revised tariff, that of 1883. In response to the same sort of outcry which has taken place recently, a Republican Congress had appointed a Tariff Commission, held public hearings, and after long discussion enacted a

revised tariff. The law was not a well considered one. Various embarrassing issues were then plaguing Congress, and by the aid of Democratic votes, the free traders in Congress were able to get injurious reductions on various forms of iron, wool and woolens, and some other staple goods. That tariff proved a serious incubus to industry in the next few years, and until superseded by the McKinley tariff law in 1890. With that experience to guide them, with a determination to uphold the protective principle, and with a purpose to concede as little as possible to foreign manufacturers, except in exchange for reciprocal benefits, it is possible that our next "revised" tariff may be a useful one. Much depends upon details, and every step in the evolution of the coming law will be watched with interest.

A second matter of vital importance is the currency question. The United States is greatly in need of a permanent addition to its store of "lawful money," the kind of money which enters into bank reserves and forms the basis for extension of bank credits. This is entirely due to the fact that the volume of business in an active year is now so immensely greater than in former times. We do not so much need more currency as we do more "lawful money." Panics and reactions in trade are precipitated largely by an utter exhaustion of the loaning power of the banks. Loaning power is based on the stock of "lawful money" in the vaults of the banks. Periods of monetary stringency and high rates of interest are due in part to exhaustion of loaning power, in part to the scarcity of any kind of currency, "lawful" or otherwise. It seems strange that there should have been a great panic in the United States last year, when, as a matter of fact, there is more gold in this country, the real thing in the way of "lawful money," than in any other country under the sun, than in fact in almost two other countries, the United States being a "two power nation" so far as gold is concerned. Could all of our gold have been available as bank reserves in 1907, and therefore as a basis for credits, there simply could not have been a panic. Or, at any rate, one of the most influential reasons for a panic would have been lacking. If the Monetary Commission which is now studying this whole question can devise a way, not only to provide a sensible and truly elastic currency, one which not only meet the needs of the crop-moving season, but which will add permanently to the loaning power of the banks and reduce the prevalent rates of interest, they will have performed a service, entitling them to the gratitude of their countrymen. I do not know to what extent the Monetary Commission or Congress will be influenced by the views of Charles H. Treat, Treasurer of the United States, who has made a minute and thorough study of this whole question; but certainly Mr. Treat's views seem worthy of the most diligent attention; and his most interesting and valuable pamphlet on the Unification of the Currency and the manner in which the vast gold resources of this country can be utilized by the banks for the benefit of the public should be read by every man who is interested in this

subject. The importance of a proper disposition of this general question will become increasingly apparent in the next four years.

Railroad capitalization is the third subject of importance. Various gentlemen of undoubted authority and competence in railroad matters believe that there should be expended in construction of new and perfection of old lines, vast sums of money, roughly stated as a billion a year for the next five years. This is certainly a very serious proposition. A volume could be written against the suggestion, and another one in favor of it. A shining example of the value of a property with moderate capitalization is supplied by Delaware, Lackawanna & Western, which has not added to its capital stock for a generation, and which has steadily reduced its funded debt, until that item in its liabilities amounts to the amusing sum of just $15,000. Here is a road which earns around 30 per cent for its stock, pays 20 per cent., and has seen its stock up to $560 a share. Could the capitalization of all the railroads of the country remain stationary for the next twenty years, there are scores of railroads which would assuredly rise into the Lackawanna class. But this is taking a stock market view of the subject. Shall development of the West and South be held back to permit Northern Pacific, for instance, to go to $400 a full share? Without entering more largely into this discussion, suffice it to say that increasing capitalizations constitute a matter which demands the attention of every investor and will certainly affect the future of railroad stocks.

Henry Hall.

The above general opinion of the stock market was kindly furnished by Mr. Hall in reply to an inquiry as to his present attitude. Mr. Hall is a careful student, whose views are entitled to respectful consideration.

As I intend offering other letters of this character in future, I would like to have it understood that no suggestions are offered when the opinion of an authority is asked, and that the views offered will be printed regardless of the personal views contained in these advices.

T. G.

THE COURSE OF COMMODITY PRICES.

By A. Selwyn-Brown, E.M., M.A., B.Sc.

December 17, 1908.

The present year will be remarkable in the history of economics in many respects, and the course of prices, both of commodities and securities, will not be the least interesting feature. As so much interest is evinced in the probable trend of prices in the near future, a review of the course of prices in recent years and during the present year, will not be amiss.

Before, however, the movements in prices are taken up it

might be well to refer to the remarkable report of Secretary Wilson, which has just been issued by the Department of Agriculture. The cultivation of the soil is the basis of the country's wealth, and in dealing with trade and security prices the condition of the agricultural industries must always be kept in mind.

Irrespective of his politics, the Secretary of Agriculture is always sanguine and optimistic. His reports are always bullish. Never before, however, has an incumbent in that office issued a more remarkable document than the review referred to above. That review may be briefly summarized as follows: The value of all farm products in 1908 amounts to the enormous total of $7,778,000,000. This is four times as great as the mining products, including metals, oils and precious stones. The farmer produces 87 per cent. of the raw materials used in those manufacturing industries which depend largely upon agricultural materials. Such industries utilize 42 per cent. of all the materials used in all our industries.

The gain in value of farm products in 1908 over 1907 is $290,000,000. The value of products in the census year 1899, being taken at 100, the value for 1903 stands at 125. It is 131 for 1904, 134 for 1905, 143 for 1906, 159 for 1907 and 165 for 1908. In the last ten years the value of the United States farm products has exceeded $60,000,000,000. This year the cotton crop takes second position after corn, and it appears that the cotton crop is one of the highest three ever produced. For the first time in history the value of the cotton crop, including seed, has apparently exceeded the value of the hay crop, which formerly occupied second place in crop values. The 1908 hay crop was the greatest in history. Wheat is 1½ per cent. above the five-year average in production, and its total value is 23 per cent. higher than the average value in the past five years. The beet, rice, barley and oats crops are larger than in 1907. The tobacco and potato crops are smaller than last year, although their values are higher.

The exports of domestic agricultural products in the fiscal year 1908 were valued at $1,017,000,000, and the exports of foreign agricultural products at $10,000,000. The imports of agricultural products during the same period amounted to $540,000,000.

Attention is drawn to the fact that the total value of the farm products has advanced in spite of the immense growth in population, the extraordinary immigration of non-agricultural people and the reduced number of men engaged in agricultural pursuits. The report is concluded by the following eulogy: "The farmer had many reasons for his Thanksgiving in 1908, as he did in recent years. He has reaped as well as sowed. He has obtained more of the means with which to improve his farm, to increase his capital, to become a more generous consumer

of the goods of other producers, and to add to the things that count for a better living, and a more pleasant life."

The Comptroller of the Currency adds a splendid setting to this rosy picture. Adding up the capital, surplus, undivided profits, deposits and circulation of the banks, he finds that our banking power at the present moment is over $17,650,000,000. This is about 38 per cent. of the total banking power of the world. In the past eighteen years our banking power has increased 242 per cent., or, in round figures, $12,492,700,000.

Statistics like the above have great value when properly and scientifically used. They are also dangerous when used wrongly. The comments in the press on the crop estimates would indicate an unwarranted leaning toward optimism. Investors should be careful in accepting such comments as reliable. There is another side to this picture. The farmer is not so prosperous as the Secretary of Agriculture wishes us to believe. From one end of the country to the other the farmer complains of the unprofitableness of farming. Even in view of the great harvests of the present year, in what should be the very pinnacle of their prosperity, President Roosevelt considered it advisable to appoint a commission under the presidency of Professor Bailey, of Cornell University, to make a thorough study of the causes of the discontent amongst the farmers and the steady exodus of the farming population to the cities and towns.

According to the last census, the average income for farms of over 1,000 acres in area is only $1.26 per acre. There has been little improvement in the return from crops during the past forty years, as is shown from the following table compiled from the Statistical Abstract of the United States for 1907:

Table I.—Yield and Value of Cereal Crops, 1866-1907.

	—Yield per Acre (Bushels)—			
Year.	Corn.	Wheat.	Oats.	Barley.
1866	25.3	9.9	30.2	22.9
1870	28.3	12.4	28.1	23.7
1880	27.6	13.1	25.8	24.5
1890	20.7	11.1	19.8	21.4
1900	25.3	12.3	29.6	20.4
1907	25.9	14.0	23.7	23.8
	—Value of Yield per Acre ($)—			
Year.	Corn.	Wheat.	Oats.	Barley.
1866	11.99	15.05	10.61	16.07
1870	13.99	11.73	10.97	18.75
1880	10.91	12.48	9.28	16.32
1890	10.48	9.28	8.40	13.44
1900	9.02	7.61	7.63	8.32
1907	13.38	12.26	10.51	15.86

The figures in Table I. show that the yield of grain per acre has been fairly uniform during the period reviewed. This

uniformity of production has been brought about by improved farming methods and by the use of modern fertilizers. A somewhat similar uniformity is noticeable in the value per acre of the crops. While the yield of the land has been little more than stationary, its value has greatly improved. Every expense of the farmer during the past forty years also shows more or less advancement. Labor has become more expensive and difficult to obtain; living costs have increased, as well as those of live stock, implements and taxes. Table II. indicates the increase in the value of farm property.

Table II.—Value of Farm Property, 1850 to 1900.

Census. Year.	All Farm Property.	Value of Farm Land.	Implements and Machinery.	Live Stock.
1850 ..	$3,967,343,500	$3,271,500,000	$152,000,000	$544,000,000
1860 ..	7,900,000,000	6,645,000,000	246,000,000	1,100,000,000
1870 ..	11,100,000,000	9,262,800,000	337,000,000	1,500,000,000
1880 ..	12,180,000,000	10,197,000,000	407,000,000	1,600,000,000
1890 ..	16,080,000,000	13,300,000,000	500,000,000	2,300,000,000
1900 ..	20,439,900,000	16,600,000,000	750,000,000	3,075,000,000

It is impossible to review in a brief space the causes of this unprofitableness of farming and of the settlement of large numbers of the farming population in the cities and towns. It must suffice to say that according to the expressed opinions of farmers in the various States, the farmer is unable to struggle against the steady increase in rents, interest on mortgages, labor, fertilizer and seed prices, taxes commissions on sales of produce, interest on crop liens and other charges. A consideration of the above facts must prevent us from being misled by the too rosy outlook pictured by the Secretary of Agriculture and the Comptroller of the Currency. The return of prosperity ought not to be too largely discounted at present. There are good times ahead, but little will be gained by attempting to hasten economic changes. A forced prosperity such as the Secretary and the press attempts to force upon us is invariably both short-lived and dangerous.

Between 1890 and 1906 the retail prices of food advanced according to the Bureau of Labor's index numbers, from 102.4 to 115.7, or nearly thirteen per cent. This advance in living costs is still noticeable. According to Bradstreet's latest index numbers these costs increased more rapidly last month than in any month during the year. The rise since last June has been sufficient to compensate about half the decline during the panic in 1907, when the gradual, long term increase was temporarily interfered with.

The relative movements of the principal groups of commodities whose prices enter into the calculations by which the index number is reached is given in Table III.

Table III.—United States Price Movements in 1907-8.

	Dec. 1, 1908	Nov. 1, 1908	Dec. 1, 1907
Breadstuffs	$.0979	$.0973	$.1046
Livestock	.3275	.3210	.2920
Provisions	2.0603	2.0066	1.9727
Fruits	.1607	.1833	.1644
Hides and leather	1.1825	1.1650	1.1600
Textiles	2.3916	2.2787	2.7646
Metals	.5881	.5758	.5953
Coal and coke	.0063	.0062	.0069
Oils	.3637	.3826	.3476
Naval stores	.0683	.0639	.0762
Building materials	.0804	.0829	.0892
Chemicals and drugs	.6379	.6379	.6781
Miscellaneous	.2744	.2662	.2730
Totals	$8.2396	$8.0674	$8.5246

Prices in Europe did not feel the effects of the depression to the same extent as those in America. But everywhere indications point to an upward tendency in the near future. The best indicators of price fluctuations in Europe are the index numbers published every quarter by the "Economist" in London. According to that journal's latest tables the average prices of commodities in London rose 1½ per cent. in September, 1908, and there has been an appreciable rise since then. Table IV. indicates the changes in prices in England between 1903 and the present time. They are taken from the "Economist's" figures.

Table IV.—English Price Movements, 1903-1908.

	Total Index Number.
End of Dec., 1903	2197
" June, 1904	2130
" Dec., 1904	2136
" June, 1905	2163
" Dec., 1905	2342
" June, 1906	2362
" Sept., 1906	2355
" Dec., 1906	2499
" June, 1907	2594
" Sept., 1907	2457
" Nov., 1907	2360
" Dec., 1907	2310
" Jan., 1908	2309
" Feb., 1908	2266
" Mch., 1908	2263
" Apl., 1908	2195
" May, 1908	2188
" June, 1908	2190
" July, 1908	2190
" Aug., 1908	2168
" Sept., 1908	2200

In commenting on the latest English price index numbers the "Economist" warned its readers against a too hasty assumption that this advance in the numbers indicates the beginning of a permanent improvement in trade conditions. It also stated that not much of the improvement can be ascribed to a larger demand for raw materials, which is one of the first symptoms of recovery. But the movement on the whole is a hopeful sign. Previous experiences have shown that after a long spell of trade activity there is usually a sharp fall in prices, followed by a period of see-saw movements at about the lowest point, and then a gradual recovery as healthy trade improvement progresses. It is impossible to state at present whether the English prices are merely a high point in the see-saw period of reaction, or whether they are the precursors of a steady upward movement in values, due to a genuine expansion in trade.

A depressing factor in the outlook in the near future is the tariff revision agitation, which is becoming more pronounced. There is a desire in some sections of the United States to have the tariff reduced in certain particulars. But throughout Europe the outcry is mostly for increased duties. At the present moment import duties are being increased, or advocated, in Germany, Italy, France and Holland. There is even a small sentiment in favor of a tariff in England.

What would be the effect of a moderate reduction in a few of the duties on raw materials in America upon local securities? This is a question which is frequently asked in financial circles. Only hypothetical answers can be given to it.

According to the statistics issued by the United States Government, Bureau of Statistics, exports are considerably larger than imports. The value of the goods exported from the United States in the twelve months ending in October last exceeded the value of the imports by $710,507,177. The movements in our foreign trade are shown in Table V.

Table V.—Exports and Imports in U. S., 1902-1908, for Government Fiscal Years Ending in October.

	Imports.		
	1902	1903	1904
	Dollars.	Dollars.	Dollars.
November	85,386,170	77,006,310	95,170,172
December	94,356,987	77,768,634	96,566,759
	1903	1904	1905
January	85,174,786	82,589,866	98,342,876
February	82,622,246	89,022,500	103,084,413
March	96,230,457	91,347,909	110,431,188
April	87,682,106	83,521,882	95,110,288
May	79,035,137	80,698,161	92,525,424
June	81,999,777	81,157,235	90,447,245

Table V. (continued)—Imports.

	1903. Dollars.	1904. Dollars.	1905. Dollars.
July	82,187,823	71,193,943	84,512,606
August	82,049,262	87,737,868	95,831,158
September	81,816,642	84,124,975	101,987,330
October	81,921,147	92,777,920	107,444,909
Total 12 months ending October	1,020,462,540	998,947,203	1,171,454,368
	1905	1906	1907
November	98,284,314	119,756,343	110,942,916
December	101,142,799	134,349,760	92,241,984
	1906	1907	1908
January	106,521,525	126,586,934	84,997,514
February	104,232,879	123,005,683	84,752,651
March	113,597,577	133,110,170	89,113,607
April	107,318,081	129,554,075	87,437,827
May	104,909,197	126,512,106	84,042,628
June	100,780,071	112,510,215	92,106,928
July	102,592,449	124,621,892	86,435,493
August	105,697,015	125,806,043	91,183,536
September	102,618,323	106,365,180	98,445,278
October	118,128,352	111,912,621	102,142,827
Total 12 months ending October	1,265,822,582	1,474,091,023	1,103,843,189

Exports.

	1902	1903	1904
November	125,200,618	160,268,538	158,068,657
December	147,992,403	174,819,566	145,253,259
	1903	1904	1905
January	133,992,269	142,045,170	123,597,383
February	125,586,024	118,800,282	106,870,782
March	132,093,964	119,888,449	136,978,429
April	109,827,215	109,880,405	128,575,374
May	100,929,591	89,886,925	123,793,569
June	95,222,846	93,224,866	121,153,486
July	91,813,265	85,223,479	107,930,421
August	89,446,457	92,253,881	117,668,115
September	110,364,840	134,265,424	135,983,816
October	160,388,508	162,527,943	154,372,979
Total 12 months ending October	1,422,858,000	1,483,084,928	1,560,246,270
Excess of exports, 12 months ending Oct.	402,395,460	484,137,725	388,791,902

	1905	1906	1907
November	170,327,921	182,655,685	204,464,217
December	199,738,520	190,399,977	207,119,996
	1906	1907	1908
January	170,603,053	189,296,944	206,114,718
February	141,766,558	159,517,221	167,757,032
March	145,510,707	161,685,228	141,588,149
April	144,380,040	157,451,781	133,357,956
May	130,548,387	134,759,568	113,610,378
June	125,033,983	137,739,630	115,369,280
July	111,693,274	128,549,535	103,199,576
August	129,801,468	127,270,447	110,443,055
September	138,496,954	135,318,342	139,327,205
October	187,353,348	180,253,296	172,000,804
Total 12 months ending October	1,795,254,213	1,884,897,654	1,814,352,366
Excess of exports, 12 months ending Oct.	529,431,631	410,806,631	710,509,177

An examination of the above figures shows that there is room for expansion in our foreign trade. This can be brought about, if the history of English trade can teach us anything, by a reduction in the tariff, or at least its thorough readjustment to meet present conditions. Many of our great manufacturing industries would be benefited by a lowering of the costs of raw materials and wages. The steel, leather, engineering and shipping industries would be able to compete with the European nations in many foreign markets if slight reductions in manufacturing costs could be brought about. Under present conditions this is rendered almost impossible in the face of the world-wide tendency of prices to advance, unless the tariff is modified to permit a temporary reduction in living costs and a more adequate return realized by the producers of raw materials. All recognized authorities on economics give ample illustrations of the effects of the tariff in keeping up abnormal rates of wages and living costs. Both Mr. Carnegie and Mr. Schwab now concede that the steel industry, for example, would not be injured by tariff revision. The leather manufacturers and many engineering firms favor reduced duties on leather and iron. Many other manufacturers believe the high tariff has outgrown its usefulness in many respects.

The course of prices has been upwards for many years, and indications point to the factors contributing to such appreciation in prices continuing to act. It must be remembered, however, that tariffs cause certain abnormal rises in the prices of the common necessaries of life, in living expenses, and, consequently, in wages. A revised tariff would readjust such abnormal prices

and enable manufacturers to reduce their production costs, and secure a larger share of trade. This would prove beneficial to industrial securities, stimulate the establishment of new industries and improve commerce in every respect. It is perhaps doubtful whether there will be any material revision of the tariff in the near future, but instead of being apprehensive in regard to tariff revision agitation, we should welcome any serious efforts to bring about tariff reforms.

A. Selwyn-Brown.

THE STOCK MARKET EFFECT OF THE DECLINE OF SILVER.

By George Bevan Mott,

Editorial staff of The Wall Street Summary.
Manager of Investment Department New York Stock Exchange firm of Ehrich, Hochstadter & Co.

December 22, 1908.

Coming as it does after a protracted advance in the stock market, the weakness in American Smelting and Refining Co. and Amalgamated Copper Co. stocks, naturally incites inquiry into the special causes for the weakness and its possible effect on the stability of prices in other directions.

The inquiry, then, involves some reference to technical market conditions, as well as to the nature of the causes of the decline in the smelting and copper stocks—whether these causes reasonably may be expected to be temporary or are of a more or less permanent nature. As for the first, Mr. Gibson has set forth reasons for believing that there has been a somwhat extensive liquidation of large holdings in the past few weeks. That the average level of prices of standard stocks, commonly used in such computations, has shown so little change during this period up to within a few days, in spite of an appearance of great inherent strength to the market, and an advancing tone, bears out the theory of distributive sales.

It may also be said that an independent canvass undertaken by the writer of this article among a number of representative Stock Exchange houses, confirms this conclusion, although, as might be expected from the spectacular movements in specialties and low grade stocks, the expansion in Stock Exchange borrowings has been largely on "cats and dogs," as far as the banks would take them as collateral. It is a fact that many houses at present have in their boxes and are, therefore, carrying with their own capital, many stocks of this class for their clients, which they have been unable to pledge.

Admitting, then, some impairment of technical conditions, the decided weakening of a single pillar, unless the damage

is such as readily and promptly can be repaired, may have a rather serious ultimate effect upon the entire stock market structure, even though an appearance of strength should be maintained for some time to come. That the weakness in the copper stocks is inherent and due to natural causes is shown by the analysis of statistics pertaining to production.

The Depreciation of Silver.

Silver has practically become demonetized, barring a few instances such as India and China, and thus the market for this commodity has become limited except for commercial purposes. Coincident with the large curtailment in use has come a great increase in production, particularly from Cobalt. These two factors have inevitably worked to lower the price of the white metal, and every evidence is given that they will be continually operative. The significance of this depreciation in price lies in the fact that the main source of silver supply in the United States is in copper, lead, copper-lead, copper-zinc and lead-zinc ores. The following table shows this source in 1906 in states and territories, as reported from the mines to the United States Geological Survey, by kinds of ore and by States, in fine ounces:

State or Territory.	Placers	Dry or Silicieous Ores	Copper Ores	Lead Ores
Alabama	.....	124	.....	.....
Alaska	114,678	23,529	27,861	.....
Arizona	274	571,621	1,724,501	718,816
California	41,913	376,345	756,276	16,107
Colorado	1,596	6,351,861	317,336	3,436,204
Georgia	34	28	537	.....
Idaho	3,665	765,549	564,123	7,616,612
Michigan	.....	.....	222,222	.....
Missouri	.....	.....	.....	.....
Montana	3,638	1,267,848	9,981,089	511,360
Nevada	1,296	6,452,182	41,273	275,469
New Mexico	195	304,917	118,548	64,882
No. Carolina	133	623	30,013	.....
Oregon	3,354	75,538	454	.....
So. Carolina	2	90	.....	.....
So. Dakota	73	150,802	.....	.....
Tennessee	.....	.....	55,931	.....
Texas	.....	301,772	.....	.....
Utah	57	111,614	2,032,205	2,688,624
Vermont	.....	.....	1,323	.....
Virginia	.....	250	.....	.....
Washington	141	37,979	7,178	579
Wyoming	9	127	.....	.....
Total	171,058	16,792,799	15,880,870	15,328,653

State or Territory.	Zinc Ores	Copper-Lead and Lead Zinc Ores	Lead Zinc Ores	Total
Alabama	.....	.....	.....	124
Alaska	.....	.....	.....	166,068
Arizona	.....	11,266	.....	3,026,438
California	30,000	.....	.....	1,220,641
Colorado	58,007	36,015	2,015,811	12,216,830
Georgia	.....	.....	.....	599
Idaho	.....	3,692	65,174	9,018,815
Michigan	.....	.....	.....	222,222
Missouri	.....	.....	31,268	31,268
Montana	.....	216,770	.....	11,980,705
Nevada	.....	.....	391	6,770,611
New Mexico	.....	2,585	.....	491,127
No. Carolina	.....	.....	.....	30,769
Oregon	.....	.....	.....	79,346
So. Carolina	.....	.....	.....	92
So. Dakota	.....	.....	.....	150,875
Tennessee	.....	.....	.....	55,931
Texas	.....	.....	.....	301,772
Utah	10,416	6,545,390	162,328	11,550,634
Vermont	.....	.....	.....	1,323
Virginia	.....	.....	.....	250
Washington	.....	.....	.....	45,877
Wyoming	.....	.....	.....	136
Total	98,423	6,815,678	2,274,972	57,362,453

Thus the total silver product for 1906 was about evenly divided between silicieous ores, copper ores and lead ores, or 29.3% for the first, 27.7% for the second and 26.7% for the third. After these come copper-lead ores, 11.8%; lead-zinc ores, 4%; zinc ores, 0.2%; placers, 0.3%. This tabulation shows that silver is practically a by-product of smelting ores in the United States. Colorado, the largest producer of silver in 1906, obtained its principal supply from mixed ores, either pyritic or silicieous, which are concentrated and smelted, and which also contain lead, copper and zinc. Montana, which is second as a producer, obtains its largest quantity from the Butte copper ores, or 9,981,089 fine ounces out of 11,980,705. Utah follows with a similar exhibit.

Probably in no other business is such secrecy maintained as in that of smelting and mining. Even the reports of the various companies to the United States Geological Survey are given on a strictly confidential basis and with the understanding that the individual production of each company be not divulged. And few of the copper companies report to their stockholders how much silver they recover from their ores, so that it is im-

possible to figure how much each company's revenue has fallen off in consequence of the decline in silver.

As regards the American Smelting & Refining Co., it has suffered a two-fold loss from a depreciation in the value of the silver produced by its own mines, and the value of the silver it has recovered from ores smelted for other mines. Although payment is made for ores smelted, on the basis of so much per ton, small quantities of silver are recovered from many ores, but not paid for by the smelting company and not recorded in the settlements. As a rule, payments are not made on less than two ounces of silver per ton of ore treated. That this quantity recovered in small amounts is not insignificant is shown by a table of the yield of silver per ton of copper ore from the principal copper camps in 1906, in fine ounces:

Clifton	0.08
Globe	.25
Bisbee	.07
Butte	2.00
Bingham	.09
Tintic	11.4

For the year 1906, the average yield of silver of the 18,000,000 tons of copper ore treated was 0.882 ounce per ton; and, if the Michigan ores, amounting to 8,000,000 tons actual yield, which do not carry silver, be excluded, the average yield was 1.588 ounces per ton. Thus the American Smelting & Refining Co. presumably does not pay for a large proportion of the silver recovered from the ores treated for its customers, but practically retains it as a bonus.

Although no authoritative figures are obtainable as to the proportion of the smelting business of the country done by this company, it is understood that it recovers about 85% of the silver. Taking the total production of silver for the year 1906, excluding the output of the placer mines, the amount recovered by the American Smelting & Refining Co. on this basis would be 48,612,686 ounces.

As the average price of silver has dropped from 66.15 cents an ounce, in 1907, to a present price of 48.50, or 17.40 cents, the decline in the value of the 48,612,686 ounces estimated to be recovered by the American Smelting & Refining Co., using the 1906 production as a basis, would be $8,458,607. The amount of silver being recovered at present from ores treated is probably considerably less than in 1906, but the loss stated above gives some idea of the extent of the depreciation in value of this important by-product of the company. How much of this loss has to be borne by the smelting company it is, of course, impossible to say, but from the fact that much of the silver recovered is in small quantities per ton of ore treated, as shown in the last table given, a rough idea may be had of its magnitude. These conclusions are necessarily reached from

meagre sources of information, and may be considerably out of line with facts; but sufficient information may be gleaned from the figures to make them illuminating.

As noted previously, the American Smelting & Refining Co. also suffers a loss in the value of silver produced by its subsidiaries in Colorado, Missouri, Mexico, California and Utah, which are controlled through the American Smelters Securities Co., which, in turn, is controlled by the American Smelting & Refining Co. As the preferred B stock of the American Smelters Securities Co. is unconditionally guaranteed both as to principal and dividends by the American Smelting & Refining Co., any falling off in earnings of the American Smelters Securities Co. is a serious matter for the parent company.

An issue which the American Smelting & Refining Co. will be forced to meet is either a lowering of smelting rates or to see the construction of independent smelters. This issue has become a pressing one, in consequence both of the decline in copper and in silver, which have so largely reduced the margin of profit in the mining of these metals.

That the decline in the value of silver is also causing inroads into the earnings of the copper companies, is shown by the fact that, in the year ended December 31, 1907, the Anaconda Copper Mining Co., one of the few companies reporting its silver production, recovered 2,001,350 ounces of silver. Figuring a production of a similar amount of silver for the year 1908, the loss in earnings to this company due to the decline of silver would be about $356,000.

Conclusion.

Although the weakness in the smelting and copper stocks is shown to be from reasons pertaining to them alone, such weakness of one of the country's great industries cannot but find reflection elsewhere; and, as the stock market apparently is in a vulnerable position, the liquidation which is occurring in the smelting and copper stocks should logically cause a curtailment in purchasing power, some forced liquidation in other directions and perhaps a loss of confidence in the market's stability, on the part of those who have the ability to purchase.

George Bevan Mott.

THE GENERAL BUSINESS SITUATION.

By John P. Ryan.

December 29, 1908.

Some of the after effects of the late panic ought to be considered peculiarly good psychological studies. For example, it will be remembered that the panic itself was extremely severe,

but the moment the extreme serious point was passed, there was manifest a disposition among those who were not directly and vitally concerned in the important lines of business to assume that there would be an immediate rebound to normal conditions. That in itself was not a bad feature, indicating as it did at least a basis of optimism, but as progress has been made this has developed two mental conditions, the effect of which is not easily described. One is the tendency to exaggerate the progress towards normal conditions, and the other is to compare the actual figures with the theoretical ones founded on nothing but enthusiasm, with the resultant growl against the actual situation.

Anyone who has been familiar either with the history of panics in this country or with the actual conditions existing immediately after such panics, cannot fail to know and understand that the only safe way to return to a healthy normal condition is slowly and conservatively. Any tendency to rush things induces technical conditions which are likely subsequently to have a repressive, if not dangerous effect. It is safe to say that thus far the advance towards better times, real prosperity and normal conditions has been judicious, timely and effective. This means that there is little foundation for the exaggerated stories of a complete restoration in all lines of business. It means also that business is growing steadily on a healthy, conservative basis, that the outlook is good, but that the figures which might be presented in detail by experts would not be stimulating to the ultra optimist, although they would be convincing and refreshing to the man of normal business poise and experience.

Here in New York, and particularly in the financial section, the stock market is supposed to measure the situation in the business world. The stock market does represent to a substantial degree conditions both in the business and financial worlds, but anyone who will stop to think will realize that it discounts conditions and anticipates probabilities. That is a function of speculation, and while the investment markets follow more slowly, they take the same trend, and consequently neither the stock market nor the bond market may represent the immediate condition existing in the business world, but rather indicates what is likely to be the condition six months or a year hence. It is not easy to determine the exact condition of the business world at the moment, and figures giving the situation at any specific moment would not have a real definite value. A reason for this is, that this is a transition period in business, and conditions are changing from day to day. In some lines the changes come slowly, while in others there is more or less excitement, pending the settling down to a definite healthy basis.

Much has been written casually concerning the steel and iron trade. That is the fundamental business of the country,

one in which this country is the dominant influence and one that is a sure index either of approaching adverse developments or the maturing and development of better conditions and healthy prosperity. Based on the vagaries of the stock market and deduced from the fluctuations in the Steel stocks, one would assume that there has been a complete recovery in the steel and iron trade. There has not been such a recovery. There has been a gradual change for the better. In some cases substantial progress is shown, but presumably the average to-day throughout the entire country is that the mills are operating sixty per cent. of their capacity. That may mean that they are doing considerably more than 60 per cent. of normal, inasmuch as during the past year or two capacity has been increased and consequently an increase in possible output. One need only refer, howver, to specific conditions. The recent Pennsylvania order was heartily welcomed, but the amount of rails needed was not satisfactory to those operating rail mills. They had expected larger orders, the public had expected that larger orders would be placed, but those placing the orders knew conditions, knew their own necessities, and knew also that when they needed rails they would be able to get them. Probably they figured that there would be no such glut of orders as to prevent comparatively quick delivery. This was a single incident, but significant in itself. The structural steel market presents similar conditions.

Let us quote one of the real experts in the steel business, a man whose word is accepted usually as conclusive in steel matters. He said, only yesterday, in a private conversation: "I am entirely satisfied with the progress towards normal conditions, primarily because it is steady and healthy, and further because it shows not only conservatism but elements of permanence. Take every department in our mills and progress is shown. Analyzing orders, one can see at least that the outlook is good even if these orders themselves are not conclusive as to the existence of normal conditions to-day. My personal view of the steel and iron trade at the moment is that it is at a point where in the logic of events it should be, that it shows no abnormal conditions, which is a good indication in itself, but that everything points to no check in the advance to better conditions."

One of the leading men in the copper trade is authority for the statement that in the past two months there have been periods when the demand for copper was largely in excess of production. Recently there has been an easing in demand so that production is slightly ahead of consumption at the moment. This would indicate on superficial examination complete restoration in the copper trade. It does not indicate that, for the reason that production is not up to the average of the big years, although it has been steadily increasing, following the conservative opinion of those who make a business and a study

of conditions in the copper world. So far as the price of copper is concerned it is no part of our business to predict possibilities in that direction, but it is the hope and belief of the large producers and the expectation of consumers that a steady market with narrow fluctuations from present prices is logical.

Let us look for a minute at the dry goods business, which is in itself a very good index to the actual situation. Every owner of a retail store has his own particular and peculiar experiences with the Christmas trade, but there is an average of such opinions which is comparatively interesting. It seems to be the general opinion of shoppers that the stores were more crowded during the recent ten days than at any time within their memory. This would indicate, of course, bigger business for the shops, larger profits and a general betterment in conditions. The comparison with last year from this point of view would serve to induce the belief that receipts should be very largely in excess of those for the corresponding period of 1907. The principal owner of one of the most important of the big department stores told one of his friends in the financial district yesterday that the season was a disappointment in some respects. There was an excess of patrons, but the buying was invariably in the cheaper grade of goods, where the profit is smallest. The lace department in one house showed a decrease of 50 per cent. in profits over the corresponding period of last year. The average gain over last year for the whole establishment was about 16 per cent. It will be remembered that a year ago the panic was a thing of very recent memory.

One of the biggest jewelry houses in the city reports a similar condition, generally speaking. This house has an international reputation and its holiday trade showed a larger sale of the cheaper grade of goods than ever before in its history. Those who know the house know that its cheaper grade of goods are always offered at a price at least as cheap as any other house in the city, and they also know that the more important lines are held at figures that sometimes are well in excess of anything charged by any other house.

It is impossible, of course, in a letter of this scope to go into any detail concerning the myriad lines of business that might profitably be discussed, and it is also impossible to make even general references, except to a few. The railway supply business, however, is one that is very important. Men in that line say very frankly that business is improving, that it is not up to their expectations, but that they are quite content with the outlook. They say that every man in the business feels that within a short time orders will come with a rush, and some of them are quite sure that it will be impossible to handle the orders expeditiously. The president of a big concern in this city which does business with all the railroads, presents this view of the immediate situation: "We are doing a fair business, but, comparatively speaking, we appear to be almost idle. That is because we have maintained

full staffs for some time, but as yet there is not sufficient to keep everyone busy. The condition is the result of conservatism, and that conservatism is not going to hurt, nor is it going to retard the proper development of business. We shall have an abundance of orders in a short time, for the reason that the railroads must of necessity reach a point where good business methods will compel the giving of orders even though conservatism be maintained."

No one can doubt for a minute the relation between savings bank conditions and general prosperity. If business is improving, the position of the working man is improved. The depositor in the savings bank represents the best element in the community of laboring men and the figures of any savings bank are necessarily instructive. There is an institution in this city of more than ordinary conservatism, of the highest type of these institutions, the figures of which are available and which we can offer for comparison. During September there were opened at that institution approximately 1,180 new accounts, and there were closed approximately 1,100 accounts. During October the number of accounts opened numbered again 1,180, but there were closed 1,130 accounts. During the month of November the accounts opened were approximately 915, and the accounts closed about 935. This would seem to show that sufficient progress has not been made in the industrial world to make it possible for these depositors to maintain the proportion in favor of accounts opened. The month of November shows, of course, a substantial loss.

Now taking some other figures, we find that in September the individual deposits aggregated about 7,750, while the drafts were about 6,630. But it is significant that while the number of drafts was less than the number of deposits, the total of drafts exceeded the total of deposits during that month by more than $47,000. During October the individual deposits were substantially 7,960, while the drafts were about 6,420. During this month the total of drafts exceeded the total deposits by more than $18,000. Coming to November we find individual deposits of about 7,120, and drafts paid numbering 5,580. The drafts in this case were not as large as the deposits, which showed an excess of more than $44,000. These last figures are, of course, contradictory of the conditions indicated by the accounts opened and closed, and probably are more significant. Their particular significance would be improved conditions among a substantial number of depositors, while at the same time indicating weakness among those who would ordinarily be desirous of saving were it possible.

Merely for the purpose of comparison the figures of November, 1907, are interesting. The individual deposits in that month numbered approximately 5,300, and the drafts 6,680. The excess of drafts over deposits was more than $40,000. Comparing these figures with November, 1908, a hopeful conclusion is entirely possible.

One more reference to certain conditions may be worth while. It is included merely to show that those who expect the immediate development of normal conditions do not figure on what the condi-

tions were from which this rapid return must be made. Consider for a minute that during 1906 there were built 240,000 freight cars for the railroads, during 1907 about 284,000 and during 1908 only 76,500, and one can get an idea of the depression. Take into consideration also that the figures for 1908 are the lowest in ten years with the single exception of the year 1904.

One might summarize the situation briefly by saying that the stock market is not an index of present conditions, that it is highly probable that it is an index of business conditions six months hence. Further, that the investment markets show present healthy condition and a splendid outlook. That an analysis of business progress shows that it has been steady, that it is healthy, that it is not complicated by a tendency to force matters and that if there be any delay in normal progress it is due to the continuance of a conservatism that was the happy successor to plunging tendencies both in business and speculation.

John P. Ryan.

Mr. Ryan's letter is a timely note of warning to that class of observers who are prone to grow enthusiastic without well-founded reasons. Mr. Ryan is not at all a pessimist, he is gratified, as all reasonable men are, at the healthy improvement in business, but recognizes the danger of being led too fast and too far in the stock market through over-confidence or enthusiasm.

T. G.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

Gibson's Manual
1909

The value of this work lies in the brevity with which information regarding different corporations is presented to the speculator or investor. The more cumbersome methods in vogue have been discarded.

Under the heading of each corporation is given a short history of the Company's Capitalization, comparative earnings, dividends paid, high and low prices by years and months for the past ten years, and a chart showing the price movement of each stock for ten years.

The list of corporations includes nearly 150 railroads, industrial and miscellaneous stocks, actively traded in on the New York Stock Exchange.

Typographically, the manual is attractive and does not tire the eye.

Bound in cloth in compact form 8½x11½. Price $5.00.

Published by

THE GIBSON PUBLISHING CO.

15 William Street, New York

The Increasing Gold Supply

A symposium of special letters on Gold Production and its probable effects on prices and business by writers well versed on the subject. A correct understanding of this matter is of vital importance to every business man, and particularly to the speculator or investor in bonds, stocks or commodities. The volume contains contributions by such eminent authorities as Maurice L. Muhleman, Byron W. Holt, Arthur Selwyn-Brown, Professor J. Pease Norton, and W. G. Nichols. Also a chapter on the gold supply, by Thomas Gibson. The principal subjects discussed are "Gold Depreciation and Security Values," "Increasing Gold Supply and Stock Prices," "Gold Supply Not Too Great," "Review of the World's Gold Supply," "Gold Depreciation Means Rising Commodity Prices," "Gold Inflation and Interest Rates," and a general discussion of the World's Gold Supply as an economic factor.

Price, bound in cloth, $1.00. By mail, $1.10.

Complete Library Offer (7 vols.), $5.00.

Published by

THE GIBSON PUBLISHING CO.

15 William Street, N. Y.

Thomas Gibson's
Weekly Market Letters for 1908

IN TWO VOLUMES

Vol. 1—Weekly Market Letters. Vol. 2—Book of Charts

This volume includes all the weekly letters published in the year 1908, together with a number of valuable statistical tables. The letters form a history of the stock market of 1908, not alone a record of prices and movements, but a practical and philosophic discussion of economic causes and effects underlying the broader swings and also offers a comprehensive forecast of price movements for 1909.

No attempt is made at day to day or week to week prognostications. The intent and purposes of these letters have been to adhere to the original policy which is made clear in the Weekly Letters of 1907. Current events of interest in market circles are taken up each week and their relation marketwise discussed in the broadest sense.

Ordinary gossip, idle rumors or "inside information" find but little space in these letters, although, of course, some of this base currency of the Street cannot be entirely ignored because of its temporary influence upon prices and sentiment.

The book of charts, which is more fully described on another page, is an almost indispensable companion work to the weekly letters, being a visible aid to the thorough understanding of the movements discussed and analyzed. Reference is invariably made in the letters to particular pages in the book of charts.

Price, bound in cloth, uniform in size with Pitfalls and Cycles of Speculation, $1.00 for each volume, or $1.50 for the two. By mail, $1.10 and $1.62.

Complete Library (7 vols.), $5.00.

Published by

THE GIBSON PUBLISHING CO.

15 William Street, New York

The Cycles of Speculation

BY THOMAS GIBSON

This book enters a little further into the influences bearing on price changes, than does the "Pitfalls of Speculation," described on the preceding page.

The Table of Contents introduces as bearing upon the subject:

The Cycles of Speculation.
The Gold Supply and its Effect on Prices.
Money.
Political Influences.
Crops, etc.
Puts and Calls.
The Question of Dividends.
Basing Railroad Values.
Effect of Business Depression.
Undigested Securities.
How to Compute the Value of Rights.
Barometer of Averages.
Best Method of Trading.
Indication of Crisis.
The Ordinary Swing of Prices.
The Factor of Safety.
Borrowing and Lending Stock.
Scalping.
Crop Damage.
Selection of Securities.
The Bank Statement.
The Cycles of Stock Speculation.
The Cycles of Grain Speculation.
The Cycles of Cotton Speculation.
Conclusion.
Bibliography.

Bound in cloth, 183 pages; uniform size and binding with "Pitfalls of Speculation." Price, $1.50; by mail, $1.62.

Complete Library (7 vols.), $5.00.

ADDRESS ORDERS TO

THE GIBSON PUBLISHING CO.

15 William Street, New York

Thomas Gibson's
Market Letters for the Year 1907

This volume includes all the weekly letters and several of the special letters published in the year 1907. The value of this work lies in the fact that the great decline of 1907 was predicted months before it occurred, and every reason for anticipating such a decline is set forth in the letters.

The educational value of the work cannot be overestimated. It has demonstrated absolutely that it is possible to foresee great price changes through the mediums of logic and the study of economic factors.

The book contains a number of valuable statistical tables and offers a broad prediction of price movements in the year 1908.

Uniform in size with the Pitfalls and the Cycles of Speculation. Price, bound in cloth, $1.00. By mail, $1.10.

Complete Library (7 vols.), $5.00.

Published by

THE GIBSON PUBLISHING CO.

15 William Street, New York

The Pitfalls of Speculation

BY THOMAS GIBSON

In this volume the author has endeavored to discuss as simply as is possible, the salient factors of speculation and investment. The Table of Contents, following the introduction, treats of:

Ignorance.
Over-Speculation, Etc.
Manipulation.
Accidents.
Business Methods in Speculation.
Market Technicalities.
Tips.
Mechanical Speculation.
Short Selling.
What 500 Speculative Accounts Showed.
Grain Speculation.
Suggestions as to Intelligent Methods.
Conclusion.

Bound in cloth, 146 pages. Price, $1; by mail, $1.10.

Complete Library (7 vols.), $5.00.

Address orders to

THE GIBSON PUBLISHING CO.

15 William Street, New York

THOMAS GIBSON'S MARKET LETTERS

THIS ADVISORY SERVICE CONSISTS OF:

1.—A daily letter mailed at 3.30 P. M.

2.—A weekly letter covering general business conditions, crop conditions, the technical situation and offering suggestions for operations during the coming week.

3.—A special letter weekly covering whatever topic is most vital.

4.—A special letter weekly on crop conditions, during the season.

5.—Analysis of the reports of leading corporations as they appear.

6.—Monthly booklets giving prices by days for active stocks.

7.—A monthly booklet of charts.

8.—A daily table of average stock prices (Rails and Industrials).

9.—Occasional telegrams regarding important changes.

10.—Privilege of a reasonable number of inquiries by mail or telegraph.

The subscriber to this service may rest assured that every question affecting future values and prices of securities will be thoroughly covered.

These letters deal particularly with securities. Grain and Cotton are also briefly touched on. While I attempt to gain the most dependable opinions on commodities, the advice offered is not based on personal investigation.

THE PRICE OF THE SERVICE IS AS FOLLOWS:

COMPLETE SERVICE AS DETAILED ABOVE	One month...	$10.00
	Six months...	40.00
	One year.....	75.00
COMPLETE SERVICE (EXCEPT DAILY LETTER)	One month....	$5.00
	Six months....	20.00
	One year.....	35.00

THOMAS GIBSON
Corn Exchange Bank Building
NEW YORK

Thomas Gibson's Book of Charts

In this volume are reproduced the charts issued in connection with Thomas Gibson's Market Letters for 1908. A few of the various subjects graphically presented in these charts are:

Railroad Earnings and Their Immediate Effect on Stock Prices in Years 1893-4, 1903-4 and 1907-8.

Effect of Reductions in Iron and Steel Prices in Periods of Depression upon the Common Stock of the United States Steel Corporation.

Stock Prices and Total Cereal Crops of the United States by Years since 1885.

Market Movements of Stocks in 14 years in which Labor Troubles Occurred.

Stock Prices and Cotton Crop of the United States.

Average Monthly Stock Movements and Quarterly Dividends of Amalgamated Copper for Years 1900 to 1908; also Average Monthly Prices of Electrolytic Copper for the same Period.

Average Monthly Stock Market Prices and Dividend Payments for Years 1904-08.

Average Monthly Movements of 20 Active Railway Stocks from January, 1888, to March, 1908; also Dull Months of that Period.

Bank Clearings of the Entire United States and Prices of Twenty Principal Railroad Stocks for Twenty-five Years.

Total Cereal Crop of the United States and Prices of 20 Principal Railroad Stocks for a Period of Years.

Comparison of Earnings and Price Movements of United States Steel Common since 1902.

Stock Prices, Crops, Trade Balances and Bank Clearings from 1885 to 1908.

Stock Market Movements in Month of June, 1908.

Railroad Earnings and Market Movements of Stocks for 6 Years Next Following Panic Years of 1873, 1877, 1884, 1893, 1896, 1903.

Market Movements of Industrial Stocks for Seven Years Next Following Panic Years.

Price, cloth, $1.00. By mail, $1.10.

THE GIBSON PUBLISHING CO.

15 William Street, New York

THIS BOOK IS DUE ON THE LAST DATE
STAMPED BELOW

AN INITIAL FINE OF 25 CENTS
WILL BE ASSESSED FOR FAILURE TO RETURN THIS BOOK ON THE DATE DUE. THE PENALTY WILL INCREASE TO 50 CENTS ON THE FOURTH DAY AND TO $1.00 ON THE SEVENTH DAY OVERDUE.

OCT 16 1935

15Mar'64PS

REC'D LD

MAR 12'64-3PM

LD 21-100m-7,'33

YB 18049

[redacted]

ske

pso

[redacted]